

# SR 19 / SR 20 Corridor Plan

# APPENDICES

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## **Appendix A – Route Classifications**

Table 2-2 in this report lists various classification schemes used by the Washington State Department of Transportation (WSDOT) and others in managing the state's transportation system. Program funding, operations and maintenance are among the WSDOT functions affected by these classification programs. The following is a brief description of each classification program and its function.

### **Functional Class (Federal and State)**

Federal Functional Classification is one of the determining factors of eligibility for Federal Transportation Funding. The classification should reflect the residential, commercial and industrial uses served by the route, municipal boundaries, and the urbanized area designations of the U.S. Bureau of the Census.

State functional classifications seek to group highways, roads and streets by the character of service they provide. The system was developed for transportation planning purposes. It recognizes the various roles that individual routes play in the transportation network. Functional classification at this level is used to identify how to direct travel through the transportation network in the most logical and efficient manner. State functional classifications in Washington are divided in two major divisions, Rural and Urban. For this division the Federal Aid Highway Urban (or Urbanized) Area Boundary is used to divide the route classifications.

SR 19 is classified as a rural minor arterial, and SR 20 is classified as a rural principal arterial from MP 7.79 to MP 8.25, and urban principal arterial from MP 8.25 to MP 12.56. See "Functional Classification System Concepts, Criteria, and Procedures, FHWA 1989" for more information.

### **Highway of Statewide Significance (HSS)**

The designation of Highways of Statewide Significance (HSS) was mandated by the 1998 Washington State Legislature. Highways of Statewide Significance include, at a minimum, interstate highways and other principal arterials that are needed to connect major communities in the state. The designation helps assist with the allocation and direction of highway funding. HSS highways are considered a higher priority for correcting identified deficiencies.

In some cases, the local Metropolitan Planning Organization or Regional Transportation Planning Organization sets the level of service standard for state highways within their jurisdiction. The 1998 legislation directed the Washington State Department of Transportation to set the level of service standards for HSS routes in consultation with local governments. However, WSDOT retains the authority to make final decisions regarding level of service standards for HSS routes.

## **National Highway System (NHS)**

The National Highway System consists of approximately 160,000 miles of roadway important to the nation's economy, defense, and mobility. It includes highways, principal arterials, the strategic highway network and its major connectors, and its intermodal connectors. The system encourages states to focus on a limited number of high priority routes and to concentrate on improving them with federal aid funds. At the same time, the states can incorporate design and construction improvements that address their traffic needs safely and efficiently. Operational improvements, such as stalled vehicle removal, and Intelligent Transportation System technology, can also be funded.

The Study Corridor is part of the National Highway System.

## **Freight and Goods Transportation System (FGTS)**

The WSDOT Freight and Goods Transportation System classification tracks the tonnage carried by all state and many county routes. Its purpose is to provide meaningful data for the use of planners and decision makers responsible for prioritizing route improvements.

The Study Corridor is considered a T-3 freight route, carrying over 300,000 to 4,000,000 tons of freight per year.

## **Scenic Byways**

The Scenic and Recreational Highway System provides a means of determining and prioritizing funding for the enhancement of scenic qualities on the nation's highways. WSDOT maintains its own designation system that allows communities to identify those routes that are most important for preserving visual characteristics. It also provides a listing that can be used to promote candidates for national designation. The Federal Highway Administration (FHWA) National Scenic Byways Program maintains a number of different scenic highway designations. The purpose of the byways program is to preserve, protect, interpret, and promote the intrinsic qualities of designated routes across the country.

The Study Corridor was designated as a state Scenic and Recreational Highway in 1967.

## **Appendix B – Physical Characteristics**

### **Roadway Alignment**

#### **Vertical Alignment**

Approximate vertical alignment data is kept at the Washington State Department of Transportation (WSDOT) Transportation Data office (TDO). This data can be used to help determine the impact of sight distance limitations at crest vertical curves on stopping sight distance. However, this exercise was not conducted for this report as WSDOT has a separate system for identifying and analyzing safety related potential improvements.

## Horizontal Alignment

Existing passing zone locations were identified manually using the WSDOT SRView program (Table B-1). For SR 19, the results indicated 13% passing zone southbound, 15% passing zone northbound, and 33% of both northbound and southbound passing zone occurrence. Part of SR 20 within the study corridor from MP 7.79 to MP 12.56 showed a 21% northbound passing zone occurrence.

State Route	Begin Milepost	End Milepost	Passing Both Ways	Passing Left	Passing Right	No Passing	Comments
19	0.00	0.07				X	
19	0.07	0.52			X		NB can pass
19	0.52	0.82	X				
19	0.82	0.95		X			SB can pass
19	0.95	1.06				X	Horizontal curve
19	1.06	1.14			X		NB can pass
19	1.14	1.36	X				
19	1.36	1.50		X			SB can pass
19	1.50	1.70				X	Horizontal curve
19	1.70	1.95	X				
19	1.95	2.12		X			SB can pass
19	2.12	2.32				X	Horizontal curves
19	2.32	2.47			X		NB can pass
19	2.47	2.54	X				
19	2.54	2.63		X			SB can pass
19	2.63	2.93				X	Horizontal curves
19	2.93	3.10			X		NB can pass
19	3.10	3.13				X	Near intersection
19	3.13	3.24		X			SB can pass
19	3.24	3.60				X	
19	3.60	3.68			X		NB can pass
19	3.68	3.79	X				
19	3.79	3.91		X			SB can pass
19	3.91	4.52				X	Horizontal curve

**Table B-1 – Passing Zone Locations**

State Route	Begin Milepost	End Milepost	Passing Both Ways	Passing Left	Passing Right	No Passing	Comments
19	4.52	4.64		X			SB can pass
19	4.64	5.17				X	Horizontal curves
19	5.17	5.23			X		NB can pass
19	5.23	5.41	X				
19	5.41	5.49		X			SB can pass
19	5.49	5.59				X	
19	5.59	5.77			X		NB can pass
19	5.77	5.79	X				
19	5.79	5.94		X			SB can pass
19	5.94	5.96	X				
19	5.96	6.05			X		NB can pass
19	6.05	6.24	X				
19	6.24	6.38		X			SB can pass
19	6.38	6.56				X	Horizontal curve
19	6.56	6.65			X		NB can pass
19	6.65	6.80		X			SB can pass
19	6.80	6.98			X		NB can pass
19	6.98	7.58	X				
19	7.58	7.66			X		NB can pass
19	7.66	8.20	X				
19	8.20	8.28			X		NB can pass
19	8.28	8.40	X				
19	8.40	8.53		X			SB can pass
19	8.53	8.62				X	
19	8.62	8.80			X		NB can pass
19	8.80	8.95		X			SB can pass
19	8.95	9.63				X	Chimacum Vicinity
19	9.63	9.75			X		NB can pass
19	9.75	10.41	X				
19	10.41	10.47				X	
19	10.47	10.67				X	Two-way left turn
19	10.67	10.75				X	
19	10.75	11.59				X	Two-way left turn
19	11.59	11.70				X	
19	11.70	11.80				X	Two-way left turn

**Table B-1 – Passing Zone Locations (continued)**

State Route	Begin Milepost	End Milepost	Passing Both Ways	Passing Left	Passing Right	No Passing	Comments
19	11.80	11.98				X	
19	11.98	12.25	X				
19	12.25	12.54				X	Prospect intersection
19	12.54	12.66			X		NB can pass
19	12.66	13.67	X				
19	13.67	13.76		X			SB can pass
19	13.76	13.81				X	
19	13.81	13.85			X		NB can pass
19	13.85	13.95	X				
19	13.95	13.98		X			SB can pass
19	13.98	14.09				X	SR 19/SR 20 Vicinity
20	7.79	9.23				X	
20	9.23	10.24			X		NB can pass
20	10.24	10.32				X	Two-way left turn
20	10.32	10.69				X	
20	10.69	10.89				X	Two-way left turn
20	10.89	10.93				X	
20	10.93	11.52				X	Vertical curve
20	11.52	11.52				X	
20	11.52	12.11				X	
20	12.11	12.14				X	Two-way left turn
20	12.14	12.51				X	
20	12.51	12.56				X	Ferry Terminal

**Table B-1 – Passing Zone Locations (continued)**

# Roadway Dimensions

## Roadway Section Widths

Information regarding the configuration and composition of existing lanes and shoulders is shown in Table B-2. This information indicates that all areas of the existing route meet the Washington State Department of Transportation (WSDOT) standards for these elements based on current traffic volumes for these locations. There are existing Special Use Lanes within the Study Corridor. Details in Table 4.

State Route	Begin Milepost	End Milepost	Left Shoulder	Roadway Width	Right Shoulder
SR 19	0.00	1.75	7 asphalt	24 asphalt	7 asphalt
SR 19	1.75	3.14	4 asphalt	24 asphalt	4 asphalt
SR 19	3.14	9.11	4 asphalt	22 asphalt	4 asphalt
SR 19	9.11	9.37	4 asphalt	24 asphalt	4 asphalt
SR 19	9.37	9.38	Curb (bridge)	30 asphalt	Curb
SR 19	9.38	9.46	4 asphalt	24 asphalt	4 asphalt
SR 19	9.46	12.54	8 asphalt	24 asphalt	8 asphalt
SR 19	12.54	14.08	6 asphalt	24 asphalt	6 asphalt
SR 20	7.79	7.92	6 asphalt	24 asphalt	6 asphalt
SR 20	7.92	9.16	5 asphalt	24 asphalt	5 asphalt
SR 20	9.16	9.20	curb(bridge)	26 asphalt	Curb
SR 20	9.20	9.81	6 asphalt	24 asphalt	6 asphalt
SR 20	9.81	10.47	7 asphalt	24 asphalt	7 asphalt
SR 20	10.47	10.62	5 asphalt	24 asphalt	5 asphalt
SR 20	10.62	10.73	6 asphalt	24 asphalt	6 asphalt
SR 20	10.73	10.84	curb	36 asphalt	Curb
SR 20	10.84	10.98	2 asphalt	24 asphalt	6 asphalt
SR 20	10.98	11.40	10 asphalt	24 asphalt	6 asphalt
SR 20	11.40	11.44	12 asphalt	24 asphalt	14 asphalt
SR 20	11.44	11.51	curb	57 asphalt	14 asphalt
SR 20	11.51	11.60	14 asphalt	24 asphalt	14 asphalt
SR 20	11.60	11.96	8 asphalt	23 asphalt	8 asphalt
SR 20	11.96	12.01	8 asphalt	44 asphalt	Curb
SR 20	12.01	12.11	curb	48 asphalt	Curb
SR 20	12.11	12.14	curb	27 asphalt	Curb
SR 20	12.14	12.19	curb	39 asphalt	Curb
SR 20	12.19	12.38	6 asphalt	22 asphalt	8 asphalt
SR 20	12.38	12.51	curb	38 asphalt	Curb
SR 20	12.51	12.56	curb	56 asphalt	Curb

**Table B – 2 Existing Roadway Section**

## Right of Way

The dimensions of right-of-way widths along the Study Corridor were determined by measuring from plans on file at the Olympic Region Plans Office (see Table B-3). The right-of-way required for the recommended improvements can be expected to exceed that which is available throughout the study corridor. However, the decision about the actual acquisition width for a project at any particular location is made during the design process, when more detailed information is available.

SR	Beg MP	End MP	Dec Left	Inc Right	Total	Comments
19	0.00	0.03	300	220	520	Within SR 104 ROW width up to MP 0.06
19	0.03	0.04	150	220	370	Within SR 104 ROW width up to MP 0.06
19	0.04	0.05	50	40	90	Within SR 104 ROW width up to MP 0.06
19	0.05	0.18	35	40	75	Proposed ROW on County plan (could be prescriptive rights)
19	0.18	0.26	55	40	95	Proposed ROW on County plan (could be prescriptive rights)
19	0.26	0.52	55	60	115	Proposed ROW on County plan (could be prescriptive rights)
19	0.52	0.54	55	30	85	Proposed ROW on County plan (could be prescriptive rights)
19	0.54	0.76	35	30	65	Proposed ROW on County plan (could be prescriptive rights)
19	0.76	0.77	45	30	75	Proposed ROW on County plan (could be prescriptive rights)
19	0.77	0.79	45	50	95	Proposed ROW on County plan (could be prescriptive rights)
19	0.79	0.88	35	50	85	Proposed ROW on County plan (could be prescriptive rights)
19	0.88	0.96	35	40	75	Proposed ROW on County plan (could be prescriptive rights)
19	0.96	1.03	50	40	90	Proposed ROW on County plan (could be prescriptive rights)
19	1.03	1.13	50	80	130	Proposed ROW on County plan (could be prescriptive rights)
19	1.13	1.18	35	80	115	Proposed ROW on County plan (could be prescriptive rights)
19	1.18	1.24	130	80	210	Proposed ROW on County plan (could be prescriptive rights)
19	1.24	1.28	130	65	195	Proposed ROW on County plan (could be prescriptive rights)
19	1.28	1.40	130	40	170	Proposed ROW on County plan (could be prescriptive rights)
19	1.40	1.47	35	50	85	Estimated existing Inc by scaling
19	1.47	1.50	35	60	95	Estimated existing Inc by scaling
19	1.50	1.63	50	60	110	Estimated existing Inc by scaling
19	1.63	1.71	35	60	95	Estimated existing Inc by scaling
19	1.71	1.72	35	30	65	Existing ROW on County Plan
19	1.72	2.03	30	30	60	Existing ROW on County Plan
19	2.03	2.06	50	30	80	Proposed left, existing right (could be 30 both sides)
19	2.06	2.07	50	33	83	Proposed left, existing right (could be 30 left)
19	2.07	2.09	40	33	73	Proposed left, existing right (could be 30 left)
19	2.09	2.17	40	30	70	Proposed left, existing right (could be 30 left)
19	2.17	2.23	30	30	60	Existing ROW on County Plan
19	2.23	2.28	50	30	80	Proposed left, existing right (could be 30 left)
19	2.28	2.31	50	40	90	Proposed both sides (could be 30 both sides)
19	2.31	2.32	30	40	70	Proposed right, existing left (could be 30 right)
19	2.32	2.35	30	30	60	Existing ROW on County Plan

**Table B – 3 Existing Right of Way**

SR	Beg MP	End MP	Dec Left	Inc Right	Total	Comments
19	2.35	2.37	30	40	70	Proposed right, existing left (could be 30 right)
19	2.37	2.42	50	30	80	Proposed left, existing right (could be 30 left)
19	2.42	2.63	30	30	60	Existing ROW on County Plan
19	2.63	2.67	30	50	80	Existing ROW on County Plan
19	2.67	2.73	50	30	80	Averaged existing left, proposed right (realignment?)
19	2.73	2.76	60	40	100	Averaged existing left, proposed right (realignment?)
19	2.76	2.81	40	30	70	Averaged existing left, proposed right (realignment?)
19	2.81	3.04	30	30	60	Existing ROW on County Plan
19	3.04	3.12	40	30	70	Proposed left, existing right (could be 30 left)
19	3.12	3.65	30	30	60	Existing & proposed realignment (MP 3.40 to MP 3.59)
19	3.65	3.73	30	50	80	Existing left, proposed right (could be 30 right)
19	3.73	3.79	30	30	60	Existing ROW on County Plan
19	3.79	3.85	60	30	90	Proposed (could be 30 left, 50 right by scaling exist)
19	3.85	3.88	40	30	70	Proposed (could be 30 left, 50 right by scaling exist)
19	3.88	3.91	30	30	60	Existing left, proposed right (could be 50 right)
19	3.91	3.95	30	60	90	Existing left, proposed right (could be 50 right)
19	3.95	4.03	30	40	70	Existing left, proposed right (could be 30 right)
19	4.03	4.06	40	30	70	Existing right, proposed left (could be 30 left)
19	4.06	4.45	30	30	60	Existing ROW on County Plan
19	4.45	4.48	40	50	90	Existing right, proposed left (could be 30 left)
19	4.48	4.50	30	50	80	Existing ROW on County Plan
19	4.50	4.52	30	30	60	Proposed (existing could be 50 left, 50 right)
19	4.52	4.53	40	30	70	Proposed (existing could be 50 left, 50 right)
19	4.53	4.56	60	30	90	Existing right, proposed left (could be 30 to 50 left)
19	4.56	4.59	50	30	80	Existing ROW on County Plan
19	4.59	4.61	40	30	70	Existing right, proposed left (could be 30)
19	4.61	4.66	30	30	60	Existing ROW on County Plan
19	4.66	4.72	40	30	70	Proposed (realignment appears to have occurred)
19	4.72	4.76	40	50	90	Proposed (realignment appears to have occurred)
19	4.76	4.95	30	30	60	Proposed (realignment appears to have occurred)
19	4.95	5.03	50	30	80	Proposed (could be 30 left, 60 right)
19	5.03	5.07	40	30	70	Proposed (could be 30 left, 60 right)
19	5.07	5.13	30	30	60	Proposed (could be 35 left, 50 right)
19	5.13	5.75	30	30	60	Existing ROW on County Plan
19	5.75	5.76	40	30	70	Existing ROW on County Plan
19	5.76	5.83	40	40	80	Proposed (could be 30 left, 50 right)
19	5.83	5.95	50	40	90	Existing left, proposed right (could be 50)
19	5.95	5.97	50	30	80	Existing left, proposed right (could be 50)
19	5.97	5.98	30	30	60	Proposed (could be 50 left, 50 right)
19	5.98	6.05	30	50	80	Existing right, proposed left (could be 50)
19	6.05	6.13	40	50	90	Existing right, proposed left (could be 30)
19	6.13	6.17	30	50	80	Existing ROW on County Plan

**Table B – 3 Existing Right of Way**

SR	Beg MP	End MP	Dec Left	Inc Right	Total	Comments
19	6.17	6.29	30	30	60	Existing ROW on County Plan
19	6.29	6.33	30	60	90	Existing ROW on County Plan
19	6.33	6.34	40	40	80	Existing ROW on County Plan
19	6.34	6.36	50	40	90	Existing ROW on County Plan
19	6.36	6.47	50	30	80	Existing ROW on County Plan
19	6.47	6.50	40	30	70	Existing ROW on County Plan
19	6.50	6.53	30	30	60	Existing ROW on County Plan
19	6.53	6.55	60	30	90	Existing ROW on County Plan
19	6.55	6.66	60	40	100	Existing ROW on County Plan
19	6.66	6.69	30	30	60	Existing ROW on County Plan
19	6.69	6.71	30	40	70	Existing ROW on County Plan
19	6.71	6.72	30	50	80	Existing ROW on County Plan
19	6.72	6.77	40	50	90	Existing ROW on County Plan
19	6.77	6.78	30	50	80	Existing ROW on County Plan
19	6.78	6.84	30	30	60	Existing ROW on County Plan
19	6.84	6.89	30	50	80	Existing ROW on County Plan
19	6.89	7.20	30	30	60	Existing ROW on County Plan
19	7.20	7.24	50	30	80	Existing ROW on County Plan
19	7.24	7.54	30	30	60	Existing ROW on County Plan
19	7.54	7.59	30	50	80	Existing ROW on County Plan
19	7.59	9.07	30	30	60	Existing ROW on County Plan
19	9.07	9.19	32	28	60	Existing ROW on County Plan
19	9.19	9.37	25	35	60	Existing ROW on County Plan
19	9.37	9.38	36	35	71	Existing ROW on County Plan
19	9.38	9.40	36	30	66	Existing ROW on County Plan
19	9.40	9.79	30	30	60	Existing ROW on County Plan
19	9.79	10.05	35	30	65	Existing ROW on County Plan
19	10.05	10.49	30	30	60	Existing ROW on County Plan
19	10.49	10.51	30	25	55	Existing ROW on County Plan
19	10.51	10.68	30	30	60	Existing ROW on County Plan (could be prescriptive)
19	10.68	11.02	28	32	60	Existing ROW on County Plan (could be prescriptive)
19	11.02	11.63	30	30	60	Existing ROW on County Plan (could be prescriptive)
19	11.63	11.64	30	30	60	Realignment
19	11.64	11.71	40	30	70	Realignment
19	11.71	11.73	40	40	80	Realignment
19	11.73	11.77	55	40	95	Averaged realignment left, existing 40 right
19	11.77	11.80	60	40	100	Averaged realignment left, existing 40 right
19	11.80	11.87	60	45	105	Averaged realignment left, existing 45 right
19	11.87	11.88	40	40	80	Existing for realignment
19	11.88	11.91	40	40	80	Existing for realignment
19	11.91	11.92	40	30	70	Existing for realignment
19	11.92	13.57	30	30	60	Existing ROW on County Plan
19	13.57	13.94	26	34	60	Existing ROW on County Plan

**Table B – 3 Existing Right of Way**

SR	Beg MP	End MP	Dec Left	Inc Right	Total	Comments
19	13.94	13.95	26	70	96	Existing ROW on County Plan
19	13.95	13.97	31	70	101	Averaged left, existing right on plan
19	13.97	13.98	40	70	110	Averaged left, existing right on plan
19	13.98	14.04	48	70	118	Averaged left, existing right on plan
19	14.04	14.06	58	70	128	Averaged left, existing right on plan
19	14.06	14.09	65	50	115	Existing ROW on County Plan
20	7.79	7.95	75	50	125	Averaged left, existing right on plan
20	7.95	7.96	50	50	100	Existing ROW on County Plan
20	7.96	7.97	55	55	110	Existing ROW on County Plan
20	7.97	9.26	50	50	100	Existing ROW on County Plan
20	9.26	9.36	50	70	120	Existing ROW on County Plan
20	9.36	9.79	50	50	100	Existing ROW on County Plan
20	9.79	9.82	30	50	80	Existing ROW on County Plan
20	9.82	9.83	50	50	100	Existing ROW on County Plan
20	9.83	9.91	50	30	80	Existing ROW on County Plan
20	9.91	10.64	50	50	100	Existing ROW on County Plan
20	10.64	10.65	30	50	80	Existing right, scaled left
20	10.65	10.68	30	75	105	Existing right, scaled left
20	10.68	12.09	50	50	100	Existing ROW on County Plan
20	12.09	12.18	50	50	100	Existing ROW on County Plan
20	12.18	12.23	45	30	75	Existing ROW (scaled)
20	12.23	12.56	50	30	80	Existing ROW (scaled)

**Table B – 3 Existing Right of Way**

## Existing Channelization/Refuge at Intersections

Several intersections on the Study Corridor have been upgraded over the years to include refuge areas for turning vehicles. Current status is provided in Table B-4 and Table B-5.

Intersection Street Name	Left Right or Both	SR Milepost	Intersection Type & Current Access	Channelization Status
SR 19/SR 104	Both	0.00	Tee w/ Full Access	Channelization w/ Illumination
SR 19/West Valley Rd	Left	9.54	Tee w/ Full Access	NBL & EBR Illumination
SR 19/Hilda St	Right	10.47	Tee w/ Full Access	SBL, Yes Illumination
SR 19/Lillian St	Left	10.53	Tee w/ Full Access	TWLTL, No Illumination
SR 19/Charles St - SR 116 Ness Corner Rd	Both	10.68	2-way w/ Full Access	NB TWLTL, SBL, WBL & NBR Taper Channelization, One Illumination
SR 19 /Margaret Way	Right	10.82	Tee w/ Full Access	TWLTL, No Illumination
SR 19/Belle St	Right	10.87	Tee w/ Full Access	TWLTL, No Illumination
SR 19/Colwells St	Right	10.93	Tee w/ Full Access	TWLTL, No Illumination
SR 19/Kennedy Rd	Left	11.09	Tee w/ Full Access	TWLTL, No Illumination
SR 19/W Foster	Left	11.3	Tee w/ Full Access	TWLTL, One Illumination
SR 19/W Patison St	Right	11.45	Tee w/ Full Access	TWLTL, No Illumination
SR 19/Irondale Rd	Right	11.61	Tee w/ Full Access	TWLTL & WBL, One Illumination
SR 19/4 Corners	Left	11.89	Tee w/ Full Access	NBL, EBL, & SBR Taper Channelization, Three Illuminaires
SR 19/Prospect Ave	Right	12.43	Tee w/ Full Access	SBL & WBL Channelization, One Illuminaire
SR 19/Airport Cutoff Rd/SR 20	Both & Right	14.09 & 7.79	4-way Signal w/ Full Access	NBL, EBL, & SBL, and SBR Channelization, Yes Illumination
SR20/Old Fort Townsend Rd	Right	8.26	Tee w/ Full Access	SBL & NBR Taper, Two Illuminaires
SR 20/Seton Rd	Right	8.60	Tee w/ Full Access	SBL, Two Illuminaires
SR 20/Frederick St - Private Access	Right	8.97	2-way w/ Full Access	SBL & NBL Channelization with SBR & NBR Tapers, Two Illuminaires
SR 20/Jacob Miller Rd	Left	9.57	Tee w/ Full Access	NBL Channelization, Two Illuminaires
SR 20/Discovery Rd - Mill Rd	Both	9.87	4-way Signal w/ Full Access	SBL & NBL Channelization, Two Illuminaires
SR 20/Howard St	Left	10.23	Tee w/ Full Access	TWLTL & SBR Channelization, One Illuminaire
SR 20/Cliff St and Alder St	Right	10.32	Tee w/ Full Access	TWLTL, One Illuminaire

**Table B – 4 Intersection Channelization and Illumination**

<b>Intersection Street Name</b>	<b>Left Right or Both</b>	<b>SR Milepost</b>	<b>Intersection Type &amp; Current Access</b>	<b>Channelization Status</b>
SR 20/McPherson St - Private Access	Left	10.47	2-way w/ Full Access	TWLTL, One Illuminaire
SR 20/Thomas St - Private Access	Right	10.53	2-way w/ Full Access	WBL & EBL Channelization, One Illuminaire
SR 20/Hancock St	Both	10.73	2-way w/ Full Access	TWLTL, No Illumination
SR 20/Sherman St	Right	10.78	Tee w/ Full Access	TWLTL, No Illumination
SR 20/Hendricks St - Private Access	Left	10.82	2-way w/ Full Access	TWLTL, Two Illuminaires
SR 20/Grant St	Right	10.87	Tee w/ Full Access	TWLTL, No Illumination
SR 20/Sheridan St	Both	10.93	2-way w/ Full Access	WBL, EBL & SBR Channelization, One Illuminaire
SR 20/Haines Pl - Shopping Center	Both	11.51	4-way Signal w/ Full Access	EBL, EBR, WBL & SBL Channelization, Two Illuminaires
SR 20/Benedict St	Right	11.79	Tee w/ Full Access	WBL Channelization, No Illumination
SR 20/Decatur St - Jefferson St	Both	11.96	2-way w/ Full Access	WBL Channelization, No Illumination
SR 20/Kearney St	Both	12.01	5-way Signal w/ Full Access	WBL, EBL & WBR Channelization, Illumination
SR 20/Washington St	Both	12.07	Skewed 2-way w/ Full Access	WBL & EBL Channelization, Illumination
SR 20/Water St	Right	12.19	Skewed Tee w/ Partial Access	NB Holding Lane Storage, Illumination
SR 20/Water St	Left	12.51	Tee w/ Full Access	EBR, NBL & SBL/R Channelization at Ferry Terminal Entrance/Exit

**Table B – 4 Intersection Channelization and Illumination (continued)**

<b>Intersection Street Name</b>	<b>Left Right or Both</b>	<b>SR Milepost</b>	<b>Intersection Type &amp; Current Access</b>	<b>Signalization (or Roundabout)</b>
SR 19/Chimacum Rd - Center Rd	Both	9.09	4-way w/ Full Access	Flashing
SR 19/West Valley Rd	Left	9.54	Tee w/ Full Access	Flashing
SR 19/Airport Cutoff Rd/SR 20	Both & Right	14.09 & 7.79	4-way Signal w/ Full Access	Signal
SR 20/Discovery Rd - Mill Rd	Both	9.81	4-way Signal w/ Full Access	Signal
SR 20/Howard St	Left	10.23	Tee w/ Full Access	Roundabout
SR 20/Thomas St - Private Access	Right	10.53	2-way w/ Full Access	Roundabout
SR 20/Haines Pl - Shopping Center	Both	11.51	4-way Signal w/ Full Access	Signal
SR 20/Kearney St	Both	12.01	5-way Signal w/ Full Access	Signal
SR 20/Water St	Left	12.51	Tee w/ Full Access	Signal

**Table B – 5 Traffic Signal / Roundabout Locations**

## Appendix C – Utility Locations

Table C-1 and Table C-2 shown on the next two pages, list the approximate location of the utilities that exist within the study corridor, according to the Washington State Department of Transportation (WSDOT) Olympic Region Utilities office, as of August 31, 2010. Detailed research is required in each case to establish any prior rights by easement that may exist. Exact locations of these utilities are available from the as-built drawings maintained by the utility company.

Note: List for SR 19 may not include all facilities in the right of way. SR 19 was transferred to WSDOT as part of the 1991 Route Jurisdiction Transfer (RJT). At the time of transfer, WSDOT was supposed to have obtained all the existing utility facilities transferred to a WSDOT franchise. That did not happen for all facilities.

On SR 20, WSDOT is not the permitting jurisdiction for the portion of the route in the City of Port Townsend. The City Limits begin at MP 9.78.

The telephone company listed as United Telephone Company of the NW or Sprint or Embarq are now operating under the name of CenturyLink. Millennium Digital Media changed name to BroadStripe. BroadStripe may now be under a different owner.

<b>Begin MP</b>	<b>End MP</b>	<b>Utility</b>	<b>Franchise Holder</b>
.11	.11	Power Cable	Puget Sound Energy
.90	.90	Water Line	City Of Port Townsend
1.06	4.64	Telecommunication	Millennium Digital Media Systems
1.60	1.60	Telephone Cable	Qwest Corporation
1.61	2.66	Telephone Cable	U S West Communications. Inc.
1.67	1.67	Power Cable	Puget Sound Energy
1.77	1.77	Power Cable	Puget Sound Energy
1.77	1.77	Power Cable	Puget Sound Energy
2.13	2.13	Power Cable	Puget Sound Energy
2.61	3.11	Telephone Cable	Sprint Telephone
2.84	2.84	Power Cable	Puget Sound Energy
3.24	11.82	Power Cable	Puget Sound Energy
3.30	3.30	Power Cable	Puget Sound Energy
5.90	5.92	Power Cable	Puget Sound Energy
6.25	6.26	Power Cable	Puget Sound Energy
6.58	6.59	Power Cable	Puget Sound Energy
7.05	7.06	Power Cable	Puget Sound Energy
7.13	7.13	Power Cable	Puget Sound Energy
8.11	8.12	Power Cable	Puget Sound Energy
8.68	8.68	Power Cable	Puget Sound Energy
8.92	12.46	Television Cable	Millennium Digital Media Systems
8.99	8.99	Telephone Cable	Sprint United
9.08	9.12	Power Cable	Puget Sound Energy
9.22	9.54	Telephone Cable	United Telephone Co. of NW
9.31	9.34	Power Cable	Puget Sound Energy
9.59	10.52	Water Line	City Of Port Townsend
9.88	9.88	Water Line	City Of Port Townsend
10.05	10.05	Water Line	City Of Port Townsend
10.05	10.05	Power Cable	Puget Sound Energy
10.05	10.08	Telephone Cable	Qwest Corporation
10.06	10.06	Power Cable	U S West Communications. Inc.
10.21	10.21	Water Line	PUD #1 of Jefferson County
10.24	10.27	Telephone Cable	Qwest Corporation
10.31	10.33	Power Cable	Puget Sound Energy
10.32	10.32	Water Line	PUD #1 of Jefferson County

**Table C – 1 Utility Locations on SR 19**

10.47	10.49	Telephone Cable	Qwest Corporation
10.60	10.61	Power Cable	Puget Sound Energy
10.68	14.15	Telephone Cable	US West Communications. Inc.
10.80	10.83	Telecommunication	US West Communications. Inc.
10.82	10.91	Telephone Cable	US West Communications, Inc.
10.89	10.89	Water Line	PUD #1 of Jefferson County
10.91	10.91	Telephone Cable	Qwest Corporation
10.95	10.95	Water Line	City of Port Townsend
10.96	10.96	Power Cable	Puget Sound Energy
11.11	11.12	Telephone Cable	US West Communications Inc.
11.32	11.32	Water Line	PUD #1 of Jefferson County
11.43	11.43	Power Cable	Puget Sound Energy
11.47	11.62	Telephone Cable	US West Communications, Inc.
11.53	11.56	Water Line	JCPUD1
11.54	11.54	Water Line	PUD #1 of Jefferson County
11.62	11.62	Telephone Cable	Qwest Corporation
11.71	11.71	Telecommunication	US West Communications, Inc.
11.84	12.44	Power Cable	Puget Sound Energy
11.99	12.00	Telephone Cable	Qwest Corporation
12.04	12.04	Telephone Cable	US West Communications, Inc.
12.97	12.97	Water Line	PUD #1 of Jefferson County
13.34	14.13	Telephone Cable	US West Communications, Inc.
13.37	13.40	Telephone Cable	US West Communications, Inc.
13.39	13.44	Telephone Cable	US West Communications, Inc.
13.41	13.42	Power Cable	Puget Sound Energy
13.56	13.56	Telephone Cable	US West Communications, Inc.
13.69	13.81	Power Cable	Qwest Corporation

**Table C – 1 Utility Locations on SR 19**

<b>Begin MP</b>	<b>End MP</b>	<b>Utility</b>	<b>Franchise Holder</b>
0.00	9.78	Telecommunication	Qwest Corporation
0.08	8.70	Power Cable	Puget Sound Energy
6.07	9.29	Television Cable	Millennium Digital Media Systems
8.02	8.02	Telephone Cable	US West Communication Inc.
8.46	8.60	Water Line	City of Port Townsend
8.48	8.59	Power Cable	Puget Sound Energy
8.50	8.51	Telephone Cable	Qwest Corporation

**Table C –Table C –2 Utility Locations on SR 20**

## Appendix D – Traffic Analysis

Actual counts were used to provide an indication of 30<sup>th</sup> highest hour design traffic demand conditions. In January, 2008, PM traffic counts were taken at various locations along SR 19 and SR 20 by the Transpo Group, a consultant for Jefferson County. These counts were supplemented with WSDOT signal counts taken in March, April, and May of 2008 to develop a 2007 base year. Other WSDOT traffic volume counts taken within the past three years (in relation to 2008) were also used to provide current data regarding vehicle traffic demand.

Existing and projected future level-of-service were computed using growth rates from a Draft Quimper Peninsula travel demand forecast model. Individual intersection growth factors (by approach leg) were factored from Year 2007 PM design hour volumes (mainline) to approximate Year 2031 design hour volumes by Olympic Region Planning.

Forecast average annual daily traffic (AADT) estimates were calculated from the design hour volume (DHV) values required for traffic analysis and roadway design purposes as shown in Table D-1.

Location			2007 (peak hour)			2007	2031 (design hour)			2031	Growth
MP	MP	Description	PM NB/EB	PM SB/WB	PM Both	AADT	PM NB/EB	PM SB/WB	PM Both	AADT	AADT
			DDHV	DDHV	DHV	10.84% K 30	DDHV	DDHV	DHV	10.84% K 30	
0.00	1.63	SR 104 to Oak Bay Road	380	318	698	6439	635	528	1163	10729	2.78%
1.63	2.61	Oak Bay Rd to Larson Lake Rd	374	294	668	6162	641	490	1131	10434	2.89%
2.61	4.29	Larson Lake Rd to Swansonville Rd	370	280	650	5996	633	480	1113	10268	2.97%
4.29	4.63	Swansonville Rd to Egg & I	403	315	718	6624	702	546	1248	11513	3.08%
4.63	9.09	Egg & I to Chimacum – Center	380	300	680	6273	624	511	1135	10470	2.79%
<b>0.00</b>	<b>9.09</b>	<b>SR 19 Segment 1 (Weighted)</b>	<b>378</b>	<b>299</b>	<b>677</b>	<b>6245</b>	<b>632</b>	<b>507</b>	<b>1139</b>	<b>10507</b>	<b>2.84%</b>
9.09	9.54	Chimacum – Center to West Valley	450	503	953	8792	743	824	1567	14456	2.68%
9.54	9.87	West Valley to H.J. Carroll Park	430	525	955	8810	704	867	1571	14493	2.69%
9.87	10.05	H.J. Carroll Park Rd to Anderson Lake Rd	423	520	943	8699	717	852	1569	14474	2.77%
10.05	10.68	Anderson Lake Rd to SR 116	425	596	1021	9419	722	964	1686	15554	2.71%
<b>9.09</b>	<b>10.68</b>	<b>SR 19 Segment 2 (Weighted)</b>	<b>433</b>	<b>546</b>	<b>979</b>	<b>9031</b>	<b>724</b>	<b>892</b>	<b>1616</b>	<b>14908</b>	<b>2.71%</b>
10.68	11.61	SR 116 Ness Corner to Irondale Rd	600	738	1338	12343	964	1246	2210	20387	2.72%
11.61	11.89	Irondale Rd to Four Corners Rd	708	913	1621	14954	1228	1579	2807	25895	3.05%
11.89	12.43	Four Corners Rd to Prospect Ave	720	850	1570	14483	1233	1459	2692	24834	2.98%
12.43	12.95	Prospect Ave to Airport - Woodland	720	843	1563	14419	1241	1449	2690	24815	3.00%
12.95	13.87	Airport – Woodland to Parkridge	713	818	1531	14124	1231	1402	2633	24290	3.00%
13.87	14.09	Parkridge Dr to SR 19 and SR 20 Jct.	713	818	1531	14124	1222	1372	2594	23930	2.89%
10.68	11.61	SR 116 Ness Corner to Irondale Rd	600	738	1338	12343	964	1246	2210	20387	2.72%
11.61	11.89	Irondale Rd to Four Corners Rd	708	913	1621	14954	1228	1579	2807	25895	3.05%
11.89	12.43	Four Corners Rd to Prospect Ave	720	850	1570	14483	1233	1459	2692	24834	2.98%

**Table D - 1 Average Daily Traffic Estimates**

Location			2007 (peak hour)			2007	2031 (design hour)			2031	Growth
MP	MP	Description	PM NB/EB	PM SB/WB	PM Both	AADT	PM NB/EB	PM SB/WB	PM Both	AADT	AADT
			DDHV	DDHV	DHV	10.84% K 30	DDHV	DDHV	DHV	10.84% K 30	
12.43	12.95	Prospect Ave to Airport – Woodland	720	843	1563	14419	1241	1449	2690	24815	3.00%
12.95	13.87	Airport – Woodland to Parkridge	713	818	1531	14124	1231	1402	2633	24290	3.00%
13.87	14.09	Parkridge Dr to SR 19 and SR 20 Jct.	713	818	1531	14124	1222	1372	2594	23930	2.89%
<b>10.68</b>	<b>14.09</b>	<b>SR 19 Segment 3 (Weighted)</b>	<b>684</b>	<b>813</b>	<b>1497</b>	<b>13810</b>	<b>1159</b>	<b>1388</b>	<b>2547</b>	<b>23496</b>	<b>2.92%</b>
7.79	8.26	SR 19 to Old Fort Townsend	893	1048	1941	17906	1481	1739	3220	29705	2.75%
8.26	8.60	Old Fort Townsend to Seton Rd	845	1040	1885	17389	1407	1724	3131	28884	2.75%
8.60	8.97	Seton Rd to Fredrick St	818	1070	1888	17417	1363	1774	3137	28939	2.76%
8.97	9.57	Fredrick St to Jacob Miller Rd	915	1103	2018	18616	1519	1829	3348	30886	2.75%
9.57	9.81	Jacob Miller Rd to Discovery Rd – Mill Rd	895	1065	1960	18081	1485	1720	3205	29566	2.65%
<b>7.79</b>	<b>9.81</b>	<b>SR 20 Segment 4 (Weighted)</b>	<b>878</b>	<b>1069</b>	<b>1947</b>	<b>17961</b>	<b>1459</b>	<b>1767</b>	<b>3226</b>	<b>29760</b>	<b>2.74%</b>
9.81	10.23	Discovery – Mill Rd to Howard St	900	1080	1980	18266	1415	1641	3056	28192	2.26%
10.23	10.32	Howard St to Cliff St	863	1040	1903	17555	1299	1317	2616	24133	1.56%
10.32	10.47	Cliff St to McPherson St	960	1063	2023	18662	1288	1282	2570	23708	1.13%
10.47	10.53	McPherson St to Thomas St	818	1035	1853	17094	1177	1450	2627	24234	1.74%
10.53	10.93	Thomas St to Sheridan St	825	993	1818	16771	1123	1366	2489	22961	1.54%
10.93	11.51	Sheridan St to Haines Place	670	860	1530	14114	889	1137	2026	18690	1.35%
11.51	11.65	Haines Place to 12th Ave	710	755	1465	13515	930	1001	1931	17814	1.33%
11.65	11.96	12 <sup>th</sup> Ave to Jefferson St	710	820	1530	14114	940	1083	2023	18662	1.34%
11.96	12.01	Jefferson St to Kearney St	738	625	1363	12574	974	865	1839	16965	1.46%
<b>9.81</b>	<b>12.01</b>	<b>SR 20 Segment 5 (Weighted)</b>	<b>784</b>	<b>935</b>	<b>1719</b>	<b>15858</b>	<b>1096</b>	<b>1278</b>	<b>2374</b>	<b>21900</b>	<b>1.59%</b>
12.01	12.07	Kearney St to Washington St									
12.07	12.51	Washington St to Water St	569	595	1164	10738	783	850	1633	15092	1.69%
<b>12.01</b>	<b>12.51</b>	<b>SR 20 Segment 6</b>	<b>569</b>	<b>595</b>	<b>1164</b>	<b>10738</b>	<b>783</b>	<b>850</b>	<b>1633</b>	<b>15092</b>	<b>1.69%</b>

If turning movements for the five-legged intersection at Washington St (MP 12.07) were included into the table above, the values for Segment 6 would change based upon the weighted lengths between intersections. Highway Capacity Manual software reports do not recognize a 5-legged intersection configuration.

**Table D - 1 Average Daily Traffic Estimates (continued)**

## Highway Segment Analysis

Procedures described in *Highway Capacity Manual (2000)* (HCM) Chapter 20 were used to analyze level of service (LOS) for the existing highway conditions in the current and forecast year (called “no-build” conditions in the forecast year). See Tables D-2 and D-3.

Results of the highway segment analysis procedures are expressed in Tables D-2 through D-4. These results are based on traffic volumes obtained for 2007 (existing conditions) and 2031 (forecast conditions/no-build). Table D-4 represents strategic widening to 4-lanes in segments 3, 4, and 5 (Segments where 70% of posted speed threshold forecast to become LOS F prior to 2031).

Location			Results				
MP	MP	Description	Directional V/C	Directional LOS	Two-Way V/C	Two-Way LOS	Corridor Segment* LOS
0.00	9.09	Segment 1: SR 19/ SR 104 to Chimacum – Center Road	.24	C			C
9.09	9.54	Segment 2: SR 19/ Chimacum – Center to West Valley	.35	D			D/E
9.54	10.68	Segment 2: SR 19/ West Valley to SR 116	.40	D	.36	E	
10.68	11.61	Segment 3: SR 19/ SR 116 to Irondale	.60	D	.56	E	D/E
11.61	11.89	Segment 3: SR 19/ Irondale to Four Corners	.61	D			
11.89	8.26	Segment 4: SR 19 and SR 20/ Four Corners to Old Fort Townsend	.73	E			E
8.26	9.81	Segment 4: SR 20/ Old Fort Townsend to Discovery-Mill	.72	E			
9.81	10.47	Segment 5: SR 20/ Discovery-Mill to McPherson	.68	D/E	.75	E	D/E
10.47	11.51	Segment 5: SR 20/ McPherson to Haines Place	.45/.68	D/E	.61	E	
11.51	12.01	Segment 5: SR 20/ Haines Place to Kearney Street	.55	D	.57	D	
12.01	12.56	Segment 6: SR 20/ Kearney to Port Townsend Ferry Terminal			.36	D	D

\*This refers to the study corridor segments. The study corridor was divided into six segments based on Average Annual Daily Traffic (AADT). It should not be confused with the 11 highway segments used for Level of Service (LOS) analysis.

**Table D – 2 Existing Year 2007 Conditions LOS Analysis**

Location			Results				
MP	MP	Description	Directional V/C	Directional LOS	Two-Way V/C	Two-Way LOS	Corridor Segment* LOS
0.00	9.09	Segment 1: SR 19/ SR 104 to Chimacum – Center Road	.44	D			D
9.09	9.54	Segment 2: SR 19/ Chimacum – Center to West Valley	.62	E			E
9.54	10.68	Segment 2: SR 19/ West Valley to SR 116	.74	E	.58	E	
10.68	11.61	Segment 3: SR 19/ SR 116 to Irondale	1.05	F	.97	F	F
11.61	11.89	Segment 3: SR 19/ Irondale to Four Corners					
11.89	8.26	Segment 4: SR 19 and SR 20/ Four Corners to Old Fort Townsend	1.85	F	.90	E	E/F
8.26	9.81	Segment 4: SR 20/ Old Fort Townsend to Discovery-Mill	1.24	F	1.03	F	
9.81	10.47	Segment 5: SR 20/ Discovery-Mill to McPherson	1.04	F	1.15 to 1.23	F/F	E/F
10.47	11.51	Segment 5: SR 20/ McPherson to Haines Place	.86	E	.94	E	
11.51	12.01	Segment 5: SR 20/ Haines Place to Kearney Street	.72	E	.73	E	
12.01	12.56	Segment 6: SR 20/ Kearney to Port Townsend Ferry Terminal			.44	D	D

\*This refers to the study corridor segments. The study corridor was divided into six segments based on Average Annual Daily Traffic (AADT). It should not be confused with the 11 highway segments used for Level of Service (LOS) analysis.

**Table D – 3 Forecast Conditions “No Build” LOS Analysis**

Location			Results					
MP	MP	Description	Directional V/C	Directional LOS	Two-Way V/C	Two-Way LOS	Multi – Lane Density	Corridor Segment* LOS
0.00	9.09	Segment 1: SR 19/ SR 104 to Chimacum – Center Road	.44	D				D
9.09	9.54	Segment 2: SR 19/ Chimacum – Center to West Valley	.62	E				E
9.54	10.68	Segment 2: SR 19/ West Valley to SR 116	.74	E	.58	E		
10.68	11.61	Segment 3: SR 19/ SR 116 to Irondale					16.9/13.1 (SB/NB)	B/B
11.61	11.89	Segment 3: SR 19/ Irondale to Four Corners						
11.89	8.26	Segment 4: SR 19 and SR 20/ Four Corners to Old Fort Townsend					22.9/19.9 (WB/EB)	C/C
8.26	9.81	Segment 4: SR 20/ Old Fort Townsend to Discovery-Mill						
9.81	10.47	Segment 5: SR 20/ Discovery-Mill to McPherson					20.8/15.9 (WB/EB)	C/B
10.47	11.51	Segment 5: SR 20/ McPherson to Haines Place						
11.51	12.01	Segment 5: SR 20/ Haines Place to Kearney Street						
12.01	12.56	Segment 6: SR 20/ Kearney to Port Townsend Ferry Terminal			.44	D		D

\*This refers to the study corridor segments. The study corridor was divided into six segments based on Average Annual Daily Traffic (AADT); should not be confused with the 11 highway segments used for Level of Service (LOS) analysis.

**Table D – 4 Forecast Conditions “Build” LOS Analysis**

## Intersection Analysis

Intersections were analyzed by comparing existing and forecast traffic volumes to the signal warrants described in the *Manual on Uniform Traffic Control Devices* (MUTCD, Federal Highway Administration, 1989).

The analysis also included examination of Synchro models of the existing, the “no-build” forecast, and the “build” forecast conditions. Synchro analysis included 5-7 alternative scenarios of the full Build range of options to review interaction of the various tiers of solutions. Corridor scenarios analyzed were:

- No Build (Year 2007 and 2031 for the existing 2-lane facility)
- Channelization (32 intersection channelizations on a 2-lane facility)
- One-Lane Roundabouts (7 locations plus channelization and existing signals at remaining intersections on a 2-lane facility)
- Two-Lane Roundabouts (7 locations plus channelization and existing signals at remaining intersections on a 2-lane facility)
- Two-Lane Roundabouts (9 locations plus channelization and existing signals at remaining intersections on a 2-lane facility)
- Signals and Channelization (14 signal locations plus channelization at remaining intersections on a 2-lane facility)
- Strategic Widening of Segments 3, 4, 5 (4-lanes, mix of new signals and roundabouts, and channelization at specific intersections in remaining segments)

The HCM (2000) relationship between average intersection/approach delays and LOS was then applied to design hour turn volumes (see Table D-5) and forecast design hour turn volumes (see Tables D-6 and D-7). The “build” characteristics described for each intersection, and represented in the Synchro model, include intersection traffic control (signal or roundabout), channelization, and roadway geometry. These intersection layouts are based on recommended configurations intended to remedy or alleviate the delays reported by the “no-build” model. Other factors influencing intersection configuration for the “build” scenario included public input about congestion and safety issues, as well as other technical safety considerations.

It should be noted that not every intersection within the study corridor reports LOS D or better (Table D-7 - Forecast 2031 Build). For example, SR 19/SR 104 build condition is shown as a two-way-left-turn-lane (TWLTL) and the worst leg of the unsignalized intersection is reported. However, study recommendations do include a long range flyover ramps/interchange conceptual solution that requires a different type of analysis and reporting. Other unsignalized intersections reporting the worst leg LOS represent minor street approaches with low traffic volume and unmet signal warrants (Oak Bay Road, Anderson Lake Road, Airport-Woodland Drive, Parkridge Drive, and Old Fort Townsend Road). Intersection such as SR 19/Four Corners and SR 20/12<sup>th</sup> Ave could be considered for turn restrictions or realignment SR 20/Seton Road could be considered for signalization in place of Fredrick Road depending on which is considered or developed as the main entrance to the industrial park.

Intersection	LOS (*)	EB Approach (**)			WB Approach (**)			NB Approach (**)			SB Approach (**)		
		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
SR 19/SR 104	D (F)	15 (17)	380 (422)	N/A	N/A	430 (478)	360 (400)	N/A	N/A	N/A	290 (322)	N/A	36 (40)
Oak Bay Rd	A (B)	N/A	N/A	N/A	40 (44)	N/A	30 (33)	N/A	345 (383)	40 (44)	25 (28)	270 (300)	N/A
Larson Lake Rd	A (B)	0 (0)	N/A	2 (2)	N/A	N/A	N/A	2 (2)	370 (411)	N/A	N/A	290 (322)	0 (0)
Swansonville Rd	A (B)	N/A	N/A	N/A	0 (0)	N/A	45 (50)	N/A	370 (411)	0 (0)	55 (61)	270 (300)	N/A
Egg and I Rd	A (B)	5 (6)	N/A	10 (11)	N/A	N/A	N/A	15 (17)	375 (417)	N/A	N/A	295 (328)	5 (6)
Chimacum – Center Rd (4-way stop)	F	165 (185)	210 (236)	120 (135)	20 (24)	280 (333)	80 (95)	75 (103)	60 (82)	15 (21)	75 (91)	60 (73)	125 (152)
West Valley Rd	A (D)	90 (112)	N/A	50 (62)	N/A	N/A	N/A	80 (93)	340 (395)	N/A	N/A	460 (500)	70 (76)
H.J. Carroll Park Rd	A (A)	N/A	N/A	N/A	0	N/A	0	N/A	430 (478)	0	0	520 (578)	N/A
Anderson Lake Rd	A (E)	55 (106)	N/A	25 (48)	N/A	N/A	N/A	35 (41)	380 (442)	N/A	N/A	495 (550)	76 (84)
SR 116 – Charles St (Two way stop)	A (F)	0 (0)	5 (12)	5 (12)	75 (97)	0 (0)	235 (305)	0 (0)	320 (348)	95 (103)	280 (311)	540 (600)	0 (0)
Irondale Rd	A (E)	N/A	N/A	N/A	50 (57)	N/A	165 (188)	N/A	545 (580)	100 (106)	305 (318)	605 (630)	N/A
Four Corners Rd	F (F)	125 (156)	N/A	90 (112)	N/A	N/A	N/A	110 (121)	595 (654)	N/A	N/A	825 (982)	20 (24)
Prospect Ave	A (D)	N/A	N/A	N/A	90 (114)	N/A	65 (82)	N/A	655 (675)	65 (67)	85 (94)	765 (850)	N/A
Airport – Woodland	A (F)	15 (25)	5 (8)	5 (8)	20 (31)	5 (8)	5 (8)	5 (8)	690 (758)	25 (27)	5 (5)	810 (900)	0 (0)
Parkridge Dr	A (F)	N/A	N/A	N/A	5 (6)	N/A	5 (6)	N/A	710 (789)	5 (6)	5 (6)	815 (906)	N/A
SR 19/SR 20 (Existing Signal)	B	175 (216)	1 (1)	5 (6)	5 (7)	5 (7)	5 (7)	15 (17)	690 (775)	5 (6)	5 (5)	805 (839)	260 (271)
Old Fort Townsend Rd	A (F)	0 (0)	0 (0)	0 (0)	20 (32)	0 (0)	5 (8)	0 (0)	900 (989)	15 (16)	5 (5)	1005 (1047)	0 (0)

EB - Eastbound  
WB - Westbound

NB - Northbound  
SB - Southbound

L - Left  
R - Right

Shaded movements do not meet LOS goals for that intersection approach

(\*) Worst approach leg level-of-service (LOS)

(\*\*) Design Hour Volume used in calculating 2007 PM Peak LOS. The first DHV are input volumes. The second DHV is how Synchro 7 adjusted the design hourly volumes into an adjusted hourly flow rate (vph) with penalties.

**Table D- 5 Intersection Peak Hour Traffic – Existing No Build 2007 (veh/hr)**



Intersection	LOS (*)	EB Approach (**)			WB Approach (**)			NB Approach (**)			SB Approach (**)		
		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
SR 19/SR 104	F (F)	25 (28)	638 (709)	N/A	N/A	701 (779)	587 (652)	N/A	N/A	N/A	481 (535)	N/A	60 (66)
Oak Bay Rd	A (E)	N/A	N/A	N/A	74 (83)	N/A	56 (62)	N/A	590 (656)	68 (76)	41 (45)	440 (489)	N/A
Larson Lake Rd	A (B)	0 (0)	N/A	2 (2)	N/A	N/A	N/A	2 (2)	633 (703)	N/A	N/A	496 (551)	0 (0)
Swansonville Rd	A (C)	N/A	N/A	N/A	0 (0)	N/A	85 (94)	N/A	633 (703)	0 (0)	95 (105)	464 (516)	N/A
Egg and I Rd	A (C)	7 (8)	N/A	14 (16)	N/A	N/A	N/A	26 (29)	660 (733)	N/A	N/A	519 (577)	9 (10)
Chimacum – Center Rd (4-way stop)	F	272 (306)	347 (389)	198 (222)	33 (40)	468 (557)	80 (95)	107 (147)	86 (118)	21 (29)	125 (153)	100 (122)	209 (255)
West Valley Rd	F (F)	129 (161)	N/A	72 (89)	N/A	N/A	N/A	134 (155)	568 (660)	N/A	N/A	759 (825)	116 (126)
H.J. Carroll Park Rd	A (A)	N/A	N/A	N/A	0 (0)	N/A	0 (0)	N/A	710 (788)	0 (0)	0 (0)	858 (953)	N/A
Anderson Lake Rd	F (F)	94 (180)	N/A	43 (82)	N/A	N/A	N/A	58 (67)	665 (773)	N/A	N/A	802 (891)	123 (137)
SR 116 – Charles St (Two way stop)	F (F)	0 (0)	5 (12)	5 (12)	117 (152)	0 (0)	367 (476)	8 (9)	522 (567)	155 (168)	456 (507)	880 (978)	0 (0)
Irondale Rd	F (F)	N/A	N/A	N/A	109 (124)	N/A	360 (409)	N/A	877 (933)	161 (171)	528 (550)	1047 (1090)	N/A
Four Corners Rd	F (F)	191 (239)	N/A	138 (172)	N/A	N/A	N/A	190 (209)	1029 (1131)	N/A	N/A	1444 (1719)	35 (42)
Prospect Ave	F (F)	N/A	N/A	N/A	131 (165)	N/A	94 (119)	N/A	1133 (1168)	112 (116)	145 (162)	1308 (1454)	N/A
Airport – Woodland	F (F)	36 (62)	12 (21)	12 (21)	31 (48)	8 (12)	8 (12)	9 (10)	1201 (1319)	44 (48)	9 (10)	1401 (1557)	0 (0)
Parkridge Dr	F (F)	N/A	N/A	N/A	8 (9)	N/A	8 (9)	N/A	1207 (1341)	9 (9)	9 (9)	1386 (1539)	N/A
SR 19/SR 20 (Existing Signal)	F	242 (298)	1 (2)	7 (9)	6 (9)	6 (9)	6 (9)	26 (29)	1194 (1341)	9 (10)	8 (9)	1336 (1392)	432 (450)
Old Fort Townsend Rd	F (F)	0 (0)	0 (0)	0 (0)	33 (53)	0 (0)	8 (13)	0 (0)	1494 (1642)	25 (27)	8 (9)	1668 (1738)	0 (0)

EB - Eastbound

NB - Northbound

L - Left

WB - Westbound

SB - Southbound

R - Right

Shaded movements do not meet LOS goals for that intersection approach

(\*) Worst approach leg level-of-service (LOS)

(\*\*) Design Hour Volume used in calculating 2031 PM Peak LOS. The first DHV are input volumes. The second DHV is how Synchro 7 adjusted the design hourly volumes into an adjusted hourly flow rate (vph) with penalties.

**Table D - 6 Intersection Peak Hour Traffic – Forecast No Build 2031 (veh/hr)**

Intersection	LOS (*)	EB Approach (**)			WB Approach (**)			NB Approach (**)			SB Approach (**)		
		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NB R	SBL	SBT	SBR
Seton Rd	F (F)	5 (13)	0 (0)	5 (13)	90 (142)	0 (0)	65 (103)	0 (0)	1286 (1383)	25 (27)	66 (77)	1677 (1950)	17 (19)
Fredrick St	F (F)	11 (20)	0 (0)	11 (20)	33 (45)	0 (0)	114 (156)	17 (19)	1336 (1484)	17 (19)	83 (99)	1743 (2075)	17 (20)
Jacob- Miller	F (F)	7 (8)	N/A	100 (113)	N/A	N/A	N/A	174 (189)	1403 (1525)	N/A	N/A	1714 (1993)	67 (78)
Discovery – Mill Rds (Existing Signal)	F	146 (157)	18 (29)	155 (166)	155 (193)	42 (53)	28 (35)	108 (123)	1394 (1585)	58 (66)	7 (8)	1349 (1498)	218 (242)
Howard St	F (F)	51 (60)	1211 (1441)	0 (0)	15 (18)	1518 (1828)	38 (45)	10 (11)	0 (0)	5 (6)	90 (122)	0 (0)	180 (243)
Cliff St	F (F)	30 (34)	1231 (1367)	30 (34)	35 (39)	1000 (1667)	20 (22)	8 (8)	3 (5)	20 (22)	75 (84)	0 (0)	54 (60)
McPherson St	F (F)	59 (64)	1184 (1287)	7 (8)	14 (16)	1387 (1594)	35 (40)	30 (60)	15 (30)	30 (60)	8 (9)	8 (9)	91 (103)
Thomas St	A (A)	N/A	1132 (1257)	0 (0)	0 (0)	1463 (1625)	N/A	0 (0)	N/A	0 (0)	N/A	N/A	N/A
Sheridan St	F (F)	188 (200)	918 (976)	7 (7)	13 (14)	1096 (1153)	26 (28)	0 (0)	7 (31)	0 (0)	21 (25)	7 (8)	173 (205)
Haines Place (Existing Signal)	F	131 (152)	655 (762)	52 (61)	27 (35)	911 (1183)	80 (104)	136 (174)	61 (78)	48 (61)	218 (245)	36 (41)	91 (102)
12 <sup>th</sup> Ave	F (F)	7 (7)	931 (1012)	N/A	N/A	977 (1163)	106 (126)	N/A	N/A	N/A	18 (37)	N/A	6 (12)
Decatur – Jefferson	A (E)	0 (0)	931 (1034)	0 (0)	0 (0)	825 (917)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	257 (286)
Kearney St (Existing Signal)	F	264 (278)	739 (778)	13 (14)	29 (41)	850 (1197)	137 (193)	47 (72)	39 (60)	23 (36)	144 (169)	36 (42)	7 (8)
Washington St (5-leg I/S)													
Water St (Existing Signal)	A	0 (0)	518 (540)	142 (148)	30 (34)	578 (649)	0 (0)	105 (154)	0 (0)	32 (46)	0 (0)	0 (0)	0 (0)

EB - Eastbound

NB - Northbound

L - Left

WB - Westbound

SB - Southbound

R - Right

Shaded movements do not meet LOS goals for that intersection approach

(\*) Worst approach leg level-of-service (LOS)

(\*\*) Design Hour Volume used in calculating 2031 PM Peak LOS. The first DHV are input volumes. The second DHV is how Synchro 7 adjusted the design hourly volumes into an adjusted hourly flow rate (vph) with penalties.

\*\*\* Note: Design hour turning movement volumes (Input and Synchro adjusted volumes) for the intersection at SR 20 and Washington Street are not shown because the existing 5-legged intersection is a configuration not recognized in Synchro 7's Highway Capacity Manual Report for an unsignalized intersection.

**Table D - 6 Intersection Peak Hour Traffic – Forecast No Build 2031 (veh/hr)**  
- Continued

Intersection	LOS (*)	EB Approach (**)			WB Approach (**)			NB Approach (**)			SB Approach (**)		
		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
SR 19/SR 104 (TWLTL)	F (F)	25 (28)	638 (709)	N/A	N/A	701 (779)	587 (652)	N/A	N/A	N/A	481 (535)	N/A	60 (66)
Oak Bay Rd (SBL, WBL)	A (E)	N/A	N/A	N/A	74 (83)	N/A	56 (62)	N/A	590 (656)	68 (76)	41 (45)	440 (489)	N/A
Larson Lake Rd (No Action)	A (B)	0 (0)	N/A	2 (2)	N/A	N/A	N/A	2 (2)	633 (703)	N/A	N/A	496 (551)	0 (0)
Swansonville Rd (No Action)	A (C)	N/A	N/A	N/A	0 (0)	N/A	85 (94)	N/A	633 (703)	0 (0)	95 (105)	464 (516)	N/A
Egg and I Rd (No Action)	A (C)	7 (8)	N/A	14 (16)	N/A	N/A	N/A	26 (29)	660 (733)	N/A	N/A	519 (577)	9 (10)
Chimacum – Center Rd (1-lane RAB)	C	272 (306)	347 (389)	198 (222)	33 (40)	468 (557)	80 (159)	107 (147)	86 (118)	21 (29)	125 (153)	100 (122)	209 (255)
West Valley Rd (Signal)	A	129 (161)	N/A	72 (89)	N/A	N/A	N/A	134 (155)	568 (660)	N/A	N/A	759 (825)	116 (126)
H.J. Carroll Park Rd (No Action)	A (A)	N/A	N/A	N/A	0	N/A	0	N/A	710 (788)	0	0	858 (953)	N/A
Anderson Lake Rd (NBL, SBR)	F (F)	94 (180)	N/A	43 (82)	N/A	N/A	N/A	58 (67)	665 (773)	N/A	N/A	802 (891)	123 (137)
SR 116 – Charles St (1.5 - lane RAB)	A	0 (0)	5 (12)	5 (12)	117 (152)	0 (0)	367 (476)	8 (9)	522 (567)	155 (168)	456 (507)	880 (978)	0 (0)
Irondale Rd (Signal and 4-lanes)	B	N/A	N/A	N/A	109 (124)	N/A	360 (409)	N/A	877 (933)	161 (171)	528 (550)	1047 (1090)	N/A
Four Corners Rd (Remove EBL or realign to Irondale)	N/A	191 (239)	N/A	138 (172)	N/A	N/A	N/A	190 (209)	1029 (1131)	N/A	N/A	1444 (1719)	35 (42)
Prospect Ave (Signal & 4-Lanes)	B	N/A	N/A	N/A	131 (165)	N/A	94 (119)	N/A	1133 (1168)	112 (116)	145 (162)	1308 (1454)	N/A
Airport – Woodland (4-Lanes and Left Turn Lanes)	F (F)	36 (62)	12 (21)	12 (21)	31 (48)	8 (12)	8 (12)	9 (10)	1201 (1319)	44 (48)	9 (10)	1401 (1557)	0 (0)
Parkridge Dr (4-Lanes & Left Turn Lanes)	A (F)	N/A	N/A	N/A	8 (9)	N/A	8 (9)	N/A	1207 (1341)	9 (9)	9 (9)	1386 (1539)	N/A
SR 19/SR 20 (4-Lanes and Signal Mod.)	B	242 (298)	1 (2)	7 (9)	6 (9)	6 (9)	6 (9)	26 (29)	1194 (1341)	9 (10)	8 (9)	1336 (1392)	432 (450)
Old Fort Townsend Rd (4-Lanes & Left Turn Lanes)	F (F)	0 (0)	0 (0)	0 (0)	33 (53)	0 (0)	8 (13)	0 (0)	1494 (1642)	25 (27)	8 (9)	1668 (1738)	0 (0)

EB – Eastbound  
WB - Westbound

NB – Northbound  
SB - Southbound

L – Left  
R – Right

Shaded movements do not meet LOS goals for that intersection approach.

(\*) Worst approach leg level-of-service (LOS)

(\*\*) Design Hour Volume used in calculating 2031 PM Peak LOS. The first DHV are input volumes. The second DHV is how Synchro 7 adjusted the design hourly volumes into an adjusted hourly flow rate (vph) with penalties.

**Table D – 7 Intersection Peak Hour Traffic – Forecast 2031 Build (veh/hr)**

Intersection	LOS (*)	EB Approach (**)			WB Approach (**)			NB Approach (**)			SB Approach (**)		
		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Seton Rd (4-Lane, No signal)	F (F)	5 (13)	0 (0)	5 (13)	90 (142)	0 (0)	65 (103)	0 (0)	1286 (1383)	25 (27)	66 (77)	1677 (1950)	17 (19)
Fredrick St (4-Lanes and Signal)	B	11 (20)	0 (0)	11 (20)	33 (45)	0 (0)	114 (156)	17 (19)	1336 (1484)	17 (19)	83 (99)	1743 (2075)	17 (20)
Jacob- Miller (4-Lanes, Redistributed Volumes)	A (A)	7 (0)	N/A	100 (0)	N/A	N/A	N/A	174 (0)	1403 (1714)	N/A	N/A	1714 (2110)	67 (0)
Discovery – Mill Rds (4-Lanes, 2+ RAB)	B	146 (157)	18 (20)	155 (274)	155 (193)	42 (53)	28 (35)	108 (321)	1394 (1592)	58 (66)	7 (8)	1349 (1498)	218 (317)
Howard St (4-Lanes & 2-Lane RAB)	A	51 (60)	1211 (1441)	0 (0)	15 (18)	1518 (1828)	38 (45)	10 (20)	0 (0)	5 (6)	90 (122)	0 (0)	180 (243)
Cliff St (4-Lanes and Rt-in, Rt-out)	A (C)	30 (101)	1231 (1367)	30 (34)	35 (0)	1000 (1667)	20 (22)	8 (0)	3 (0)	20 (22)	75 (0)	0 (0)	54 (60)
McPherson St (4-Lanes and Rt-in, Rt-out)	A (C)	59 (0)	1184 (1287)	7 (8)	14 (0)	1387 (1594)	35 (40)	30 (0)	15 (0)	30 (60)	8 (0)	8 (0)	91 (103)
Thomas St (4-Lanes and 2-Lane RAB)	A	N/A	1132 (1257)	0 (0)	0 (0)	1463 (1625)	N/A (0)	0 (60)	N/A (30)	0 (0)	N/A (96)	N/A (9)	N/A (0)
Sheridan St (4-Lanes and Signal)	B	188 (200)	918 (976)	7 (7)	13 (14)	1096 (1153)	26 (28)	0 (6)	8 (31)	0 (6)	21 (25)	7 (8)	173 (205)
Haines Place (4-Lanes, Signal Mod.)	B	131 (152)	655 (762)	52 (61)	27 (35)	911 (1183)	80 (104)	136 (174)	61 (78)	48 (61)	218 (245)	36 (41)	91 (102)
12 <sup>th</sup> Ave (4-Lanes, WBR)	A (F)	7 (7)	931 (1012)	N/A	N/A	977 (1163)	106 (126)	N/A	N/A	N/A	18 (37)	N/A	6 (12)
Decatur – Jefferson (4-Lanes)	A (C)	0 (0)	931 (1034)	0 (0)	0 (0)	825 (917)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	257 (286)
Kearney St (4-Lanes, 2+ RAB)	B	264 (278)	739 (778)	13 (14)	29 (41)	850 (1197)	137 (193)	47 (72)	39 (60)	23 (36)	144 (169)	36 (42)	7 (8)
Washington St (4-Lanes, 2-Lane RAB)		245 (272)	792 (880)	50 (56)	37 (41)	772 (858)	22 (25)	25 (28)	N/A	260 (21)	N/A	0 (268)	288 (320)
Water St (No Action, Signal)	A	N/A (0)	518 (540)	142 (148)	30 (34)	578 (649)	N/A (0)	105 (154)	N/A (0)	32 (46)	N/A (0)	N/A (0)	N/A (0)

EB – Eastbound  
WB – Westbound

NB – Northbound  
SB – Southbound

L – Left  
R – Right

Shaded movements do not meet LOS goals for that intersection approach

(\*) Worst approach leg level-of-service (LOS)

(\*\*) Design Hour Volume used in calculating 2031 PM Peak LOS. The first DHV are input volumes. The second DHV is how Synchro 7 adjusted the design hourly volumes into an adjusted hourly flow rate (vph) with penalties.

**Table D – 7 Intersection Peak Hour Traffic Forecast 2031 Build (veh/hr)  
(Continued)**

## **Appendix E – Stakeholder Meetings**

### **Corridor Working Group Meetings (pages 142-182)**

The agenda and meeting summaries for each Corridor Working Group are presented on the following pages. A brief synopsis of each meeting can also be found in Chapter 3.

SR 19/20 Corridor Plan  
**Corridor Working Group Meeting #1**

**Agenda**

**July 17, 2008**

**10:00 AM to Noon**

**WSU Extension (Learning Center)  
Spruce Meeting Room**

- 10:00 – 10:15 **Introductions**  
Welcome & Introductions  
Study Purpose  
Schedule/Decision Process  
Study Assumptions
- 10:15 – 11:00 **Existing Conditions**  
Features/Environmental Constraints  
Traffic Conditions  
Corridor and Segments  
Safety Analysis  
Segment Descriptions
- 11:00 – 11:10 **Break**
- 11:10 – 11:50 **Vision Statement & Study Criteria**
- 11:50 – 12:00 **Next Steps**  
Meeting Dates and Times  
Minority/disadvantage communities  
Communication process

SR 19/20 CORRIDOR PLAN  
**CORRIDOR WORKING GROUP MEETING #1**

WSU Learning Center  
July 17, 2008  
10:00 a.m. – 12:00 p.m.

Attendees:

Herb Beck, Port of Port Townsend  
Chuck Boggs, East Jefferson Fire-Rescue  
Clint Casebolt, Washington State Patrol  
Norm Clare, NAVFAC-NAVMAG  
Owen Fairbank, Olympic Peninsula Bicycle Association  
Marion Huxtable, DASH  
Joe Kaare, Port Townsend Police Department  
Josh Peters, Jefferson County Public Works  
Linda Pfafman, Jefferson County Traffic Safety Task Force  
Monte Reinders, Jefferson County Public Works  
Rick Sepler, City of Port Townsend  
Annette Nesse, Jamestown S'Klallam Tribe  
David Sullivan, Jefferson County Commissioner  
Dave Turissini, Jefferson Transit  
Andy Pernsteiner, Jefferson County Sheriff's Office  
Bob Jones, WSDOT  
Vicki Steigner, WSDOT  
Nazmul Alam, WSDOT  
Yvette Liufau, WSDOT  
Debbie Clemen, WSDOT

Nazmul Alam welcomed the attendees and thanked the working group members for taking the time to be part of the study. Nazmul introduced himself as project lead and initiated self-introductions of those present. He noted the working group make-up. He then reviewed the study's purpose- to improve safety and reduce congestion; to recommend short, mid, and long term improvement; to guide investments along the corridor; and to build community support. He stated that it is important to note that there is funding to do the study but none for any projects that may come out of this study. He added that the corridor plan is a 20 year plan for a safe and efficient transportation system developed in collaboration with jurisdictions and users of the route. Nazmul then reviewed the study schedule, the decision making process, and the study assumptions with the group. Next Nazmul presented some of the environmental constraints and impacts that will need to be considered during alternative screening and evaluation; reviewed highway features and 2006 annual average daily traffic along the corridor; and the existing traffic conditions with the group.

Nazmul explained that level of service (LOS) for both roadway and intersections are graded from A through F, where A means free flowing traffic conditions and F means

failing or stop and go traffic. He pointed out that some sections of the roadway were approaching capacity (LOS E) and some intersections like SR 19/SR 116, Prospect Avenue, and some city signalized intersections were failing due to delay at the intersections. Nazmul added, as traffic volumes approach capacity along mainline the minor street unsignalized intersections will have less gaps in traffic to turn left or right to enter SR 19 or SR 20. He mentioned for example, that the team heard from community members how difficult the west bound left turn on Ness' Corner Rd. was.

Nazmul then presented segmentation of the corridor into six segments based on annual average daily traffic. Segment 1 is rural in character, while segments 5 and 6 are the urbanized (city) segments, and segments 2, 3, 4 are urbanizing segments in between. He noted solutions should fit the need of each segment.

He then introduced Yvette Liufau, who presented the traffic collision information for the study area.

Yvette commented that there were a total of 411 collisions in the study area. Most collisions were rear end type caused by following too close, speeding and not granting right-of-way.

Yvette highlighted that the increase in number of collisions in the month of July, could be related to seasonal traffic or more traffic on the road. She also pointed out that the most weather related collisions occurred during the month of November and most collisions with snow and ice road conditions were on SR 19 between SR 104 and Chimacum. Collisions tracked by the time of day indicates that collisions occur more between the hours of 11 a.m. and 6 p.m. and involve both local and commuter traffic.

In reviewing location of the collisions on Segment 1: SR 19 from SR 104 to Chimacum Road, most collisions occurred within the first 3 miles. Almost half of the 101 reported collisions on Segment 1 were run off the road type.

In Segments 2 and 3: Chimacum to SR 116 and SR 116 to SR 20, most collisions are intersection related and fifty percent of the collisions involved making a left hand turn. There were a total of 29 collisions in Segment 2 and 60 collisions in Segment 3.

In Segments 4, 5 and 6: SR 20 to Mill Road; Mill Road to Washington Street; and Washington Street to the ferry terminal, there are more rear end collisions and at angle crashes. Most of the intersection related collisions happened at Mill Road. There was also an increase in rear end and at angle collisions from Howard Street to Thomas Street. Note: the City of Port Townsend's project will address some of these issues. Also there were 14 bicycle related collisions caused by vehicles failing to yield the right-of-way to bicyclists. In Segments 4, 5, and 6 there were a total of 65, 137, and 19 collisions respectively.

During Yvette's presentation, the following questions were asked: (response in italics)

- Are the angle collisions a lateral collision? *Yes it is.*
- Does the statistics include all reported accidents? Where did the data come from? *The data includes all reported accidents and comes from WSP, local and county sheriff and police departments.*
- Are these single vehicle accidents? *These are all reported collisions.*
- Can you explain why the 2 highest accident intersections are signalized? *A traffic signal changes traffic patterns, thus causing more rear end collisions. Motorists are slow to react to the red light and are unable to stop in time.*
- Is it possible to show the severity of the collision on the intersection collisions chart? Severity versus property damage would be more helpful especially on Prospect Ave.? *Yes, we have the data to show this.*
- People may want to know the severity of the collisions especially at Prospect Ave. intersection.
- It's hard to read the stats on this charts—majority of members requested the slides be emailed to them. *They will be made available.*

Yvette then turned the meeting back over to Nazmul.

Nazmul then reviewed with the group the six segment descriptions with emphasis on *What We Have Heard So Far* by segments. He then gave out the following assignment to the group:

*This group is tasked with reviewing the lists of "What We Have Heard So Far" to make sure that all the transportation issues have been captured. A hard copy of the listing can be found in your packet on pages 22-28. Take your time and share these lists with your coworkers. If you have any additions or corrections, please submit them to us no later than July 31<sup>st</sup>. Nazmul's e-mail address is [alamn@wsdot.wa.gov](mailto:alamn@wsdot.wa.gov)*

During Nazmul's presentation, the following questions and comments were put forward:

- Why wasn't the lower half of SR 20 included in the study? A lot of traffic coming from the North Olympic Peninsula travels the entire route of SR 20. *There are some issues on that section of road, but the traffic volumes are lower.*
- Traffic does come from US 101 to get to the ferry terminal and to Whidbey Island. *During the most recent highway system planning exercise, SR 19 from SR 104, and SR 20 between SR 19 and the ferry terminal were identified as a top congested corridor. This met the 70% of the posted speed limit threshold criteria, and given to us by WSDOT HQ to study. Lower part of SR 20 was not part of the top congested corridor.*

- The Port has purchased some new equipment to allow instrument landings. Hopefully, this new feature will dramatically increase the number of airport users. In turn, the Port estimates that traffic to and from the airport will also increase significantly.
- East Jefferson County Fire-Rescue hopes to build a new fire station on the back side of the airport and have a private road link to Prospect Avenue.

After a short break, Vicki Steigner gathered the group back together to draft the Vision Statement and Criteria for the study. Vicki highlighted common or shared goals from city and county's comprehensive plans and Washington Transportation Plan and presented to the group a draft vision statement for discussion.

After considerable discussion and clarification of certain terms, the group voted to adopt as a draft the following vision statement for the SR 19/20 corridor. This draft vision will be presented at the public meeting for their comments.

#### Group Consensus Draft Vision Statement

A sustainable multi-modal corridor that integrates the movement of people and goods safely and efficiently, enhances regional connections, and contributes to economic vitality and improves quality of life, with minimum environmental impacts.

Next, Vicki led the group through a similar process for the criteria. After much discussion, the group voted to adopt the following draft criteria:

#### Group Consensus Draft Alternative Evaluation Criteria

##### Safety

- Does the alternative address an identified or envisioned safety problem for both the number of collisions and severity for motorcycles, cars, buses & trucks?
- Does the alternative address an identified or envisioned safety problem for non-motorized travelers? How well does the alternative address ADA issues and support all transportation users.

##### Mobility

- Does the alternative address a capacity problem and meet LOS standards?
- Does the alternative reduce delay at intersections?
- Does the alternative improve movement of freight?
- Does the alternative improve non-motorized travel?
- Does the alternative balance mobility with access needs?

##### Feasibility

- What is the estimated cost of the alternative?
- How well does the community favor the alternative?
- Does the alternative support development of an integrated system?

- Does the alternative impact, or have the potential to impact historic or cultural resources?

#### Environmental Impact

- How will the alternative impact wetlands, steep slopes and other critical areas?
- Does the alternative reduce vehicle emissions?
- Will the alternative impact residential areas?
- Does the alternative impact business or affect access?

Vicki then turned the meeting over to Debbie Clemen who presented the next steps information to the group.

Debbie invited the group to attend the public meeting scheduled for August 28<sup>th</sup>. She mentioned that participants may visit anytime between the hours of 4-7 p.m. No formal presentation will be given. Participants will visit stations and speak one-on-one with project staff. Debbie highlighted a meeting reminder card and indicated that the study's website is listed on the reverse side. She then encouraged members to periodically visit the website to find out about the study's latest updates. Debbie also shared with the group that a flyer advertising the public meeting would be sent to all postal customers. A paid advertisement would also be placed in the local newspaper.

She then asked the group if a Spanish interpreter may be needed for the public meeting due to the large Hispanic community in Jefferson County. After much discussion by the group, it was determined that materials would be translated upon request. If a participant attends the public meeting, Josh Peters commented that he speaks Spanish and would be available if needed. She added that WSDOT could also provide a sign language interpreter and/or materials in Braille if the group knew of a community member who would like those services at the public meeting. Marion Huxtable will check with DASH members to see if those services will be needed.

Dave Turissini from Jefferson Transit offered to provide free bus or shuttle service to those who don't drive and need a ride to the public meeting. Participants should call 385-4777 to schedule a ride. Note: participants must live on the bus line for service.

Debbie then reminded the group that the next Corridor Working Group meeting is scheduled for November 7<sup>th</sup> from 10 a.m. to noon at the WSU Learning Center.

She asked the group if e-mail was the best way to communicate study information. The group agreed. She then turned the meeting back over to Nazmul for his closing comments. Nazmul reminded the group of their assignment and thanked them for their time.

SR 19/20 Corridor Plan  
**Corridor Working Group Meeting #2**

**Agenda**

November 7, 2008  
10:00 AM to Noon  
WSU Extension (Learning Center)  
Spruce Meeting Room

- |               |  |
|---------------|--|
| 10:00 – 10:05 | <b>Welcome and Introductions</b>   |
| 10:05 – 10:15 | <b>Recap of Open House</b>   |
| 10:15 – 10:30 | <b>County Model Presentation</b>   |
| 10:30 – 10:50 | <b>Future Traffic Conditions</b>   |
| 10:50 – 11:05 | <b>Smart Trips Presentation</b>  |
| 11:05 – 11:20 | <b>Access Management Presentation</b>  |
| 11:20 – 11:50 | <b>Potential Improvement Options</b><br>List of potential improvement options by segment<br>Brainstorm solutions |
| 11:50 – 12:00 | <b>Next Steps/Wrap Up</b><br>Meeting Dates and Times   |

**SR 19/20 Corridor Plan  
Corridor Working Group Meeting #2  
November 7, 2008**

**Attendees**

Chuck Boggs, East Jefferson Fire Rescue  
Andy Pernsteiner, Jefferson County Sheriff  
Joe Kaare, Port Townsend Police Department  
David McCullough, Port Townsend Bicycle Association  
Larry Crockett, Port of Port Townsend  
Dave Turissini, Jefferson Transit  
Wayne Nagy, Indian Island  
Linda Pfafman, Jefferson County Traffic Safety Task Force  
Mike Blair, Chimacum School District  
Rick Sepler, City of Port Townsend  
Marion Huxtable, DASH  
Marie Hebert, Port Gamble S'Klallam Tribe  
Katherine Baril, Team Jefferson  
Josh Peters, Jefferson County Public Works  
Leonard Smith, Washington State Ferries  
Nazmul Alam, WSDOT  
Bob Jones, WSDOT  
Vicki Steigner, WSDOT  
Debbie Clemen, WSDOT

**Welcome and Introductions**

Nazmul Alam introduced himself and welcomed those in attendance and relayed the room logistics with the group. He then initiated self-introductions of those present.

Next Nazmul reviewed the meeting agenda with the group. He commented that Jefferson County will present their travel demand forecasting model followed by a presentation of the future traffic conditions. Then Vicki Steigner will present an overview of Whatcom County's Smart Trips program followed by a presentation on access management. Nazmul will then cover some potential improvement options and collect the group's input. Finally, we will conclude with some next steps discussion.

**Recap of Open House**

Nazmul recapped the project's open house held in August. He commented that 105 people attended and that over 90 written comments were received.

He relayed that we shared the vision statement with the public that this group reviewed at our first Corridor Working Group meeting. There were no changes suggested from the public.

### **Draft Vision Statement**

A sustainable multi-modal corridor that integrates the movement of people and goods safely and efficiently, enhances regional connections, and contributes to economic vitality and improves quality of life, with minimum environmental impacts.

We also shared the alternative evaluation criteria. A comment from the public requested that we add the word “**people**” to the criteria. Since this group needs to approve any changes to the criteria, Nazmul requested a thumbs-up vote from the committee to approve the wording change. The group showed thumbs-up all around, so the change to the criteria was adopted.

### **Draft Alternative Evaluation Criteria for Safety**

#### Safety

- Does the alternative address an identified or envisioned safety problem for both the number and severity of collisions for **people**, motorcycles, cars, buses & trucks?
- Does the alternative address an identified or envisioned safety problem for non-motorized travelers? How well does the alternative address ADA issues and support all transportation users?

Q: —**People**” means adding other modes right?

A: Yes, it’s adding the human element.

S: Please don’t make this corridor look like the entrance to Poulsbo.

Nazmul then relayed the range of ideas and suggestions heard from the public at the open house:

- From widen the highway to 4 lanes to don’t widen the highway at all
- There were people who really wanted signals; others wanted roundabouts; and still others did not want any intersection control
- Widen shoulders throughout and improve transit and pedestrian amenities all the way to SR 104

Nazmul noted that we didn’t hear any contradictions on this third bullet which suggest the community is pretty much unified about this.

- Decrease speed—people drive too fast; Increase speed---people drive too slow; Enforce speed limits
- Provide wildlife crossing
- Complete regional trails outside the study limits
- Accommodate aging population somehow

Nazmul, in introducing the next presenter – Josh Peters of Jefferson County Public Works, commented that it's great that Jefferson County has a transportation model. WSDOT really appreciates it. It's a valuable transportation planning and decision making tool and is very beneficial to this study.

## **County Model Presentation**

Josh relayed to the group that Jefferson County used the following steps to create the model:

- Model Network
- Existing Land Use—Base Year 2007
- Trip Generation
- Trip Distribution and Assignment
- Validation and Calibration
- Future Land Use—Horizon Year 2031
- 2031 Baseline Model

The first step is to identify the study area. The county's study area is much larger than the WSDOT project area. The model network includes 400+ Traffic Analysis Zones (TAZs). There are more zones in the Tri-Area and the city than in the rural sections.

Q: How large are some of the zones?

A: Some are large and some are small. A greater concentration of smaller-sized zones allows us to study an area, such as the Port Hadlock Urban Growth Area (UGA), in more detail.

The Transportation Analysis Zones were developed within the study area based on census tract, parcels, zoning, and natural boundaries. Land use was summarized by TAZ. The size and structure of the TAZs are at a level to best approximate how vehicle load onto the transportation network from the land uses represented by each TAZ. Note: each business has a different demand on traffic.

Next, they prepared the travel demand model roadway network using available Geographic Information System (GIS) database files. The data was then spot checked in the field for consistency. The model roadway network reflects existing roadway and intersection geometries, traffic control, speed limits, and number of lanes.

They then estimated the amount of vehicle trips generated by land use within the county for the PM peak hour, which is generally between 4:30 and 5:30 pm. The trips were assigned to the roadway system based on observed travel patterns and existing traffic counts.

In the last step, they summarized Year 2031 land use forecasts by TAZ and the model roadway network was updated to reflect improvement projects that would likely be completed by 2031. Land use assumptions included Port of Port Townsend growth, Discovery Bay golf course and others. Based on these assumptions, they prepared the PM peak hour “No-Build” 2031 traffic forecasts.

This model shows us traffic conditions under different scenarios.

Q: Where would Fort Worden fall in the trip generation?

A: All businesses report what type of employees they have whether they are retail, parks, school etc. We also have non peak information available. City Planning Director Rick Sepler addressed how Fort Worden’s “learning center” plan was incorporated into the travel demand model.

Q: How did you get the information from the motorists?

A: We used traffic count information; received information from the state and WSF had recently completed an Origin and Destination Study.

Nazmul commented that this is a four step model. We know where people live and work by TAZs. We know for example how many single family dwelling units there are in a TAZ. Based on trip generation rates that Josh talked about we know how much traffic will be generated. Then through trip distribution we compile a trip table that tells us how many trips will go from one TAZ to another. Lastly, we find out routes people will take based on travel times, delay, and congestion.

Q: We have so many home-based businesses in this area. How does the model account for them?

A: That is the benefit of having a model to take this into consideration because we can calibrate existing land use with observed traffic counts. Also, most home-based businesses don’t get tourists driving to their homes, so they behave more like dwelling units and less like commercial or industrial locations.

We don’t anticipate a lot of growth in the rural residential and natural resource areas in the model study area. We are using a smooth growth rate of 1.09% as a projection in the rural and resource areas, which mirrors to the population projection adopted through joint County-City resolution for the 2004 growth management update. The growth rates are higher in the City, the Port Hadlock UGA, and the Port Ludlow Master Planned Resort.

### **Future Traffic Conditions**

Next, Josh presented the Future Traffic Conditions in the area. He commented that the thickness of the line represents traffic volume. This area will experience increased traffic volumes by 2031.

Q: Why did you leave off Indian Island?

A: We assumed that Marrowstone Island will remain rural and based the traffic conditions on the past model. The traffic entering the study area at the intersection of SR 116 and Oak Bay Road is considered an “external” and is modeled to grow at a rate that continues an observed pattern.

Josh then presented the following statistics for the percentage growth of traffic from 2007 through 2031:

- 50-70% growth for model link volumes (PM peak hour) along SR 19/20
- 60-75% growth for “PM peak hour volume entering intersections” at major intersections along corridor

Next, Josh explained the existing and future intersection and roadway level of service (LOS). Level of Service or LOS A represents the free flow traffic conditions, unlike LOS F which is stop and go traffic found mostly in the urban areas.

Jefferson County is working on a draft of “Needs Evaluation” and is creating a list of potential improvements. Please remember that the County is focused on the broader picture than the state’s study of SR 19 and SR 20.

Q: With transit moving to Four Corners, wouldn’t there be more local trips to and from the transit station?

C: The maintenance facility for transit is moving to Four Corners. This facility is not going to be a transit center. Locals will mostly see transit employee traffic coming and going from this location.

S: The Four Corners area already features and may feature in the future the following entities:

- Jefferson County International Airport, managed by the Port of Port Townsend
- Gas station at the intersection of SR 20 and Four Corners Road
- American Red Cross
- EOC
- new Fire Station on the Airport property

A: Over 100 new jobs are projected to be added to the Airport property by the horizon year of 2031. So the model assumes significant growth there.

Q: Does the model provide for pedestrian LOS?

A: This particular model doesn’t feature that information. However, there are ways of implementing policies that that provide for pedestrian and bicycle LOS. I think that Bellingham and the Whatcom County have looked into a concurrency program that maintains or improves non-motorized LOS.

Q: Does this model take into consideration that the population is getting older?

A: We have actually modeled the Kala Point area because of the behavior that we have seen, whereby the traffic generated is more comparable to retirement units than typical dwelling units

Nazmul thanked Josh for his presentation and then introduced Vicki Steigner.

### **Smart Trips Presentation**

Vicki Steigner commented that the following information on Smart Trips is a summarized version of the program. Whatcom County Council of Governments is in the process of writing a manual for communities. This will enable communities to replicate and customize the program to fit their specific needs. The whitepaper will be released in January. Also for those interested, a webinar is scheduled for February.

Katherine Baril commented that this WSU facility has video conferencing available if this group would like to meet in this room for the webinar.

Vicki then commented that we will also bring the Smart Trips presentation to the open house. It could also be considered the green project alternative for the study. Please also note that Smart Trips is not a construction project. This program focuses on the people and resources already in the community.

The public information for Smart Trips is targeted to only those people interested. The program must fit the community. The Smart Trips program in Whatcom County targeted a 5 mile radius around the community of Bellingham. The high influx of college aged students may have made this program so successful. An older population may have more difficulties with biking and walking.

The Smart Trips program encourages participants to walk, bike, share ride and ride the bus to any destination in Whatcom County instead of driving alone.

Whatcom Smart Trips program includes:

- Online trip diaries—similar to JeffCan
- Incentives--- The incentives also have a huge impact on the success of the program.
- Emergency Ride Home---a taxi ride home is provided if for instance you need to pick-up your sick child from school
- Smart Trips Employer Partners---this is similar to the commute trip reduction program where employers provide incentives to get employees to carpool
- School Smart Trips---schools teach kids how to ride transit and provide free bus passes

- EverybodyBIKE---provides solutions to participant’s problems of why they can’t bike to work. For example, participant needs bike bags to safely transport work clothes or material.
- Public Awareness Campaign---Professional T.V. commercials, bulk mailings, survey in neighborhoods
- Personal visits by volunteers to interested participants. These volunteers will help participants overcome their barriers for using the Smart Trips program (such as teaching participants how to ride transit, providing bike maps etc.)

What are the Rewards for participants using the program?

- \$250 cash prizes—monthly drawing for those participants that make at least 5 smart trips per month
- \$1,000 cash prizes—monthly drawing for those participants that participate for 3 months or more
- Smart Trips Discount---after you make 10 smart trips, you’ll receive a smart trips discount card valid at over 100 local businesses
- Personal Milestones—each time you make 100 smart trips, you will receive a thank you gift from a local business
- Emergency Ride Home—Free taxi ride home if you make a smart trip to work and you have a family or personal emergency that requires quick transportation home.
- Recognition—make 200 smart trips in a year shows you’re a real leader in our community. Smart trips leaders are recognized with special thank you gifts

Vicki then reviewed the individualized marketing statistics from the 2004 pilot project. Statistics from 2004 showed the following:

<b>Mode:</b>	<b>2004</b>	<b>2007</b>
Walking	+35%	+77%
Bicycle	+13%	+7%
Motorcycle	n.a	n.a.
Car as driver-	-8%	-11%
Car as passenger	+10%	-3%
Public transportation	+14%	+88%

Walking had the biggest change. Most participants would start out with short distances and then work up to longer ones. Three years later, people are trying new things. At first some tried walking, then carpooling and now they’re willing to take transit.

Q: Is the 2004 number a change. How come the 2007 bicycle number is less?

A: Yes, fewer participants chose to ride their bikes in 2007 than in 2004. Bike riding for the average rider is seasonal depending on the weather.

Q: Does Whatcom County have a ride share program?

A: Vicki didn't know. She will ask the program director about that.

As a reality check Vicki featured the financial information for the program. Overall, there is wide support in Whatcom County for the Smart Trips program.

#### Financial Support

- City of Bellingham donated \$300,000 over a 3 year period
- Whatcom County donated \$60,000 over a 3 year period
- WTA donated \$225,000 over a 3 year period
- Washington State funding grant for \$450,000 over a 3 year period
- Puget Sound Energy donated \$35,000
- ConocoPhillips donated \$30,000
- Northwest Clean Air Agency donated \$10,000

Total funding: \$1,350,000 for 3 years. Note there is no infrastructure for this program. It's all about people and resources.

#### Program Costs

	Start-up	2-Years	Totals
Administration		\$5,088	\$5,088
Website	\$15,985	\$22,472	\$38,457
Incentives	\$9,940	\$57,942	\$68,882
STEP*	\$105	\$3,489	\$3,594
School		\$779	\$779
Bike		\$23,029	\$23,029
CTR**		\$40,683	\$40,683
Subtotal	\$26,030	\$153,482	\$179,512
Labor	\$39,493	\$514,207	\$540,691
Grand Total:	\$65,523	\$667,689	\$720,203

\*Smart Trips Employee Partners—Employers with less than 25 employees

\*\*Commuter Trip Reduction Program—Employers with more than 25 employees

Note: the labor cost is the major cost of implementing this program. This program features 6 ¼ FTEs (full time equivalent employees) for this program. The incentives also make up about half the cost of the program. The maintenance costs for the Web site also requires a large chunk of the budget.

#### Lessons Learned

Think big and be positive. Get everyone involved and look for the small changes that people can make. Staff is everything and set high standards.

Q: How does this equate with how Port Townsend is growing? How do you think that this money would get into play? The City is about out of money. Without raising taxes, how would you get Port Townsend to give you the money for the program?

A: It would need to be funded by the legislature.

C: I attended an open house for bike and trails last night. We are still looking at bike trails as recreation instead of a transportation need.

Josh commented that the county may not have State-mandated commute trip reduction for employers but we can still do something. We have van pool equipment. There are tax advantages for supplying bus passes to employees. We can do simple things.

Q: Do you know what type of funding went to Whatcom County for this program?

A: It was an —emark”

Vicki then asked the committee if it would be OK to present this information to the public at the open house in December. The committee presented a thumbs-up vote. All were in agreement to present the Smart Trips information to the public.

### **Access Management Presentation**

Next Vicki presented some information on Access Management to the committee. She commented that access management is a tool for preserving capacity on the state highway system. National studies have shown that roadways with fewer driveways are safer and capable of moving more cars per hour than roadways with numerous driveways and connecting streets. Managing the access along a highway can help limit sprawl and support the adjacent land use and zoning regulations.

Before 1991, the only method of controlling access on the state highway was to purchase the access rights from adjacent land owners. Unfortunately, it's a very expensive method and WSDOT just doesn't have the funds to purchase access rights on SR 19/20 at this time.

In 1991, the Washington State Legislature passed the Highway Access Management Law, RCW 47.50. This law gave the state the right to regulate access to the state highway. WSDOT has jurisdiction in unincorporated area, including UGAs, and cities regulate access within the city limits. These routes are called Managed Access highways. Both SR 19 and SR 20 are managed access highways.

The State required WSDOT to develop a classification system and standards for these Managed Access Highways. Five basic access classifications were created, and a route transition from one class to the next depending on the local land use. Class 1 is the most restrictive and Class 5 is the least restrictive. Most of the highways in Washington State are designated Class 2. Class 2 is mobility favored over access. It allows one driveway per property ownership; property owners must

use county road system if possible; and this classification is the most common designation, on all 2-lane rural routes.

Also in 1991, all roadway accesses were grandfathered in until the parcel is redeveloped. WSDOT works with the City and County when a new development is proposed.

#### Access Classification on SR 19

- From SR 104 to Chimacum Rd., it's designated as a Class 2 Managed Access
- From Chimacum Rd. to SR 116, it's designated as a Class 3 Managed Access
- From SR 116 to SR 20, it's designated as a Class 3 Managed Access

#### Access Classification on SR 20 (between SR 19 and the ferry terminal)

- From SR 19 to Mill Rd., it's designated as a Class 2 Managed Access
- From Mill Rd. to Washington St., it's designated as a Class 3 from Mill Rd. to Decatur St. and from Decatur St. to Washington St., it's designated as a Class 4
- From Washington St. to the ferry terminal, it's designated as a Class 4

Note: It's important to remember that all driveways that were in place prior to 1991 were grandfathered when the Access Management Law was enacted. Even if we changed the access classification, driveways in existence prior to 1991 would retain their "grandfathered" status until the land use changes or a highway project gets built.

Vicki then commented that the current classifications are good, we just need to find ways to implement the regulations through a construction project.

Q: Have you driven this route for businesses in violations?

A: If the business is in violation, chances are good that the driveway to the business was in place before 1991 and therefore it therefore grandfathered in place.

Q: Do you have the access information on a GIS layer?

A: Yes, we just went online.

### **Potential Improvements**

Nazmul reviewed some potential improvements options with the group that the team developed through data analysis, public input, and stakeholder interviews. Note: the committee will have until November 21<sup>st</sup> to provide their comments on the following improvements.

Nazmul referenced 6 segment maps numbered with dots on the map representing potential improvement options. The table on each segment map provides a description of the potential improvements.

Segment 1 features the following improvements:

- Shoulder pullouts
- Passing lanes
- Intersection improvements at key locations
- Visitor center, signage, turn lanes and access

Comments:

- In regards to suggestion Number 3: SR 104 to Chimacum & Center Rds— Make SR 19 one way in and Center Rd. one way out south of Chimacum. This couplet won't pass muster. It has a fatal flaw and should be eliminated. Don't bring back to next meeting.
- Fatal Flaw #7. no need
- Segment #1 needs shoulders—mostly moves well

Segment 2 features the following improvements:

- Chimacum schools related improvements—signage
- Pedestrian crossings and non-motorized movements
- Connectivity to parks and trails
- Implement access management. This is to implement driveway access provisions consistent with the County comprehensive plan.
- Install 20-stall parking lot in the Center-Chimacum Rd. vicinity

Comments:

- Tunnel—sounds like a good option—but location needs to be looked at. Locate tunnel at school or park. The county shows advantages for the park location. The goal is to get non-motorized to the school
- Anderson Lk Rd. –Add refuge or merge lane suggestion. We must maintain shoulder width with either of these options. Anytime we are adding merge/refuge lanes, please remember to keep the bike lane width
- H.J. Carol Park needs transit stop and cross walk protected left lane option. Transit currently goes into both sides of the park to pick-up transit users so that users don't have to cross the road.

Segment 3 features the following improvements:

- Intersection improvements such as left, right turn lanes, or intersection controls (at SR 116, Irondale, Prospect, Airport Rd.)
- Transit pullouts
- Non-motorized facilities, implementation of access management

- Install sidewalks, curb, gutter to regulate access per county comprehensive plan

Comments:

- SR 116 to SR 20—Re-stripe intersection to create turn pockets without widening shoulders
- Prospect Ave—intersection improvements. A signal is the preferred solution—it gives a break in traffic for the motorists at Airport Rd. intersection. Turn lanes would also be helpful
- Add turn lanes at Airport Road
- SR 116 to SR 20—widen to 4 lanes (on the SR 19 corridor)
- Relocate #13 on map—it's in the wrong place
- Need special look at school zones and age/travel/time and cross walks
- County working group—Safe Routes to School grant
- Vision—articulated buses with bike racks

Segment 4 features the following improvements:

- Widening the highest traffic volume and over-capacity roadways that is forecasted in 2031 for this segment
- The oval shape in dashed lines—represent a system improvement combining Mill Rd. intersection to Jacob Miller intersections. The city and the county are considering potential of a system solution for an entryway to Port Townsend
- Intersection improvements
- Transit pullouts

Comments:

- Already have a transit pullout on northbound far side at Fredricks—need a pullout on the southbound side
- Change access for Fred Hill Materials from state route to county road
- Add separate bike trail at Courtesy Ford to allow off road section to Glen Cove. Note: the Ford dealership is for sale—13 acres are available.
- Not fair to close roads to bicycle traffic—give cyclists the option of which route to take. Most hard core cyclists want a direct route to where they are going
- This section has narrowest shoulders and highest volume—must have shoulder widths increased in this section.
- Really like bike trail to cut over to Auto St.

Segment 5 features the following improvements:

- We are recommending city's Sims Way project between Howard and Thomas
- Intersection improvements at Mill Rd. and Sheridan leading to the hospital
- Some widening and climbing lanes
- Again the oval represents the same thing as in Segment #4

Comments:

- Use “intersection improvements” instead of signal—use same language throughout the document
- Kearney St.—increase pedestrian crossing time
- Jefferson, Kearney, Washington & Water St area an ideal place for a roundabout or control. Also would be a great place for a transit stop
- Continuous bike lanes needed

Segment 6 features the following improvements:

- Prohibit right turn-on-red movements out of the ferry terminal—came out of the Port Townsend Ferry Terminal Preservation and Improvement Project, Transportation Discipline Report
- Provide a transit stop and pedestrian facilities including a marked crosswalk and a sidewalk path on the dock—came out of the same report
- Widen towards bluff to create shoulder—this came from a stakeholder comment

Comments:

- Check “sidewalk on the dock” – may already exist
- Keep present location of transit stop at ferry – comment made by Transit representative
- Fix access into Subway parking lot
- Improve signage at ferry terminal arrows to show how to get to Port Townsend...
- #1 Fatally Flawed—Don’t encourage passing on the right
- Continuous bike lanes needed

The following improvements were not related to a specific segment:

- From Chimacum/Center Rd. to SR 104—Swap SR 19 with Center Rd. making Center Rd. a state route (this would be a route jurisdiction change). - Fatally flawed.
- Develop and implement a pilot Smart Trips Program. - The committee voted, Yes, thumbs-up
- Mill Rd. to Haines Pl—complete city street network following railroad line between Mill Rd and Haines Pl. - Fatally flawed
- Irondale Rd.—complete county road network connection Already changed to reduce accidents. - Fatally flawed.

## **Next Steps/Wrap Up**

Nazmul then turned the meeting over to Debbie Clemen for the Next Steps segment. Debbie quickly commented to the group that the next public meeting is on Thursday, December 4<sup>th</sup> at the Chimacum Middle school in the commons area. Please note that the open house will start ½ hour earlier to accommodate those who prefer not to drive in the dark. The open house will start at 3:30 p.m. and run until 6:30 p.m.

The next Corridor Working Group committee meeting will be held on Thursday, April 21<sup>st</sup> from 10 a.m. to noon at the WSU Extension in Port Hadlock in the Spruce Room.

Nazmul then thanked the committee for their time and adjourned the meeting.

###

SR 19/20 Corridor Plan  
**Corridor Working Group Meeting #3**

**Agenda**

**July 29, 2009**  
**10:00 AM to Noon**  
**WSU Extension (Learning Center)**  
**Spruce Meeting Room**

- |               |   |
|---------------|---|
| 10:00 – 10:05 | <b>Welcome and Introductions</b>  |
| 10:05 – 10:15 | <b>Study Overview/Recap</b>   |
| 10:15 – 10:25 | <b>Evaluation Methodology</b>   |
| 10:25 – 11:50 | <b>Preliminary Tiered Recommendations<br/>and Top Priorities<br/>(includes discussion and comments)</b> |
|               | <b>Smart Trips Update</b>   |
| 11:50 – 12:00 | <b>Next Steps/Wrap Up</b>   |

**SR 19/20 Corridor Plan  
Corridor Working Group Meeting #3  
July 29, 2009**

**Attendees**

David Sullivan, Jefferson County Commissioner  
Josh Peters, Jefferson County Public Works  
Linda Pfafman, Jefferson County Sheriff Office  
Wayne Nagy, NAVMAG Indian Island  
Marion Huxtable, DASH  
Larry Crockett, Port of Port Townsend  
Dave Turissini, Jefferson Transit  
Linda Barnfather, WA Representative Kevin Van De Wege  
David McCullough, Port Townsend Bicycle Association  
Leonard Smith, Washington State Ferries  
Monte Reinders, Jefferson County Public Works  
Rick Sepler, City of Port Townsend  
Joe Kaare, Port Townsend Police Department  
Bob Jones, WSDOT  
John Donahue, WSDOT  
Nazmul Alam, WSDOT  
T.J. Nedrow, WSDOT  
Debbie Clemen, WSDOT

**Introductions**

Nazmul Alam welcomed those in attendance, reviewed the meeting logistics and then initiated self-introductions.

**Study Overview/Recap**

Nazmul reviewed the meeting agenda and briefly recapped the study to date including the study purpose, vision statement for the corridor, and the alternative evaluation criteria. Nazmul reminded the group that they adopted these through consensus. He mentioned that the evaluation criteria established by the corridor working group were then used by the study team in the evaluation process.

**Study Purpose**

- Improve safety and reduce congestion
- Recommend short, mid, long term improvements
- Guide WSDOT investments
- Guide investments in the transportation system and build community support

## **Vision Statement**

A sustainable multi-modal corridor that integrates the movement of people and goods safely and efficiently, enhances regional connections, and contributes to economic vitality and improves quality of life, with minimum environmental impacts.

## **Alternative Evaluation Criteria**

### Safety

- Does the alternative address an identified or envisioned safety problem for both the number and severity of collisions for people, motorcycles, cars, buses & trucks?
- Does the alternative address an identified or envisioned safety problem for non-motorized travelers? How well does the alternative address ADA issues and support all transportation users?

### Mobility

- Does the alternative address a capacity problem and meet LOS standards?
- Does the alternative reduce delay at intersections?
- Does the alternative improve movement of freight?
- Does the alternative improve non-motorized travel?
- Does the alternative balance mobility with access needs?

### Feasibility

- What is the estimated cost of the alternative? How well does the community favor the alternative?
- Does the alternative support development of an integrated system?
- Does the alternative impact, or have the potential to impact historic or cultural resources?

### Environmental Impact

- How will the alternative impact wetlands, steep slopes and other critical areas?
- Does the alternative reduce vehicle emissions?
- Will the alternative impact residential areas?
- Does the alternative impact business or affect access?

Nazmul then highlighted project schedule milestones. He noted two public meetings/open houses were held previously and a third will be held on August 27<sup>th</sup> at the Chimacum Creek Primary school gymnasium. The next Corridor Working Group meeting is scheduled for October 28<sup>th</sup> and the public open house following that will be scheduled for early November. He noted that the study is expected to be published in January or February of next year.

## Route/Corridor Segments

Nazmul reviewed the corridor segments with the group. He reminded the group that the project area was divided into 6 segments. Nazmul reviewed the characteristics of each segment.

### Segment 1

Segment limits: 9.1 miles long from SR 104 to Chimacum-Center Road

What does this segment look like?

- SR 19 intersects with SR 104
- This segment is a rural 2-lane road
- Lined by undeveloped rural land and wetlands
- Posted speeds between 50-35 mph
- Managed Access Class 2

What have we heard so far?

- Wider shoulders needed in some areas
- Put guardrail in places with steep banks
- Turn lanes needed at some intersections
- Speeding is an issue

### Segment 2

Segment limits: 1.6 miles long from Chimacum-Center Road to SR 116

What does this segment look like?

- Rural 2-lane with small business and driveway access
- Chimacum school complex generates vehicle and pedestrian traffic
- SR 116 carries traffic to Port Hadlock and a Naval Ammunitions depot on Indian Island
- Posted speeds vary between 35-40 mph
- Managed Access Class 3

What have we heard so far?

- Emergency vehicle access is an issue
- Safety improvements at school crosswalk
- Intersection improvements at SR 19/SR 116

### Segment 3

Segment limits: 3.4 miles long from SR 116 to SR 19/SR 20

What does this segment look like?

- Rural 2-lane with mix of residential & business access
- Two way left turn lane exists in some locations
- Jefferson County Airport is located in this segment
- Posted speed limits vary between 40-50 mph
- Managed Access Class 3

What have we heard so far?

- Emergency vehicle access is an issue
- Intersection improvements are needed
- Transit users are commuting to Port Townsend

#### **Segment 4**

Segment limits: 2 miles long from SR 19/SR20 to Mill Road

What does this segment look like?

- Rural 2-lane with business and light industrial
- Some bus pullouts located on the segment
- Posted speeds vary between 40-50 mph
- Managed Access Class 2

What have we heard so far?

- Intersection improvements are needed
- Difficult to make left turns at some intersections
- Emergency vehicle access is an issue

#### **Segment 5**

Segment limits: 2.3 miles long from Mill Road to Washington Street

What does this segment look like?

- Port Townsend city limits begin in this segment
- 2-lane roadway in more urban setting
- Posted speeds vary between 30-40 mph
- Managed Access Class 3

What have we heard so far?

- Intersection improvements are needed
- Difficult to make left turns at some intersections
- Improvements at crosswalks

#### **Segment 6**

Segment limits: one half of a mile long from Washington Street to the ferry terminal.

This is an urban segment with lower speed limits

What does this segment look like?

- 50 to 80 foot high bluffs entering Port Townsend
- This segment ends at the ferry terminal
- Posted speed vary between 30-40 mph
- Managed Access Class 4

What have we heard so far?

- Intersection improvements are needed
- Ferry traffic causes traffic back-ups & signage for ferry loading area is confusing

- Motorists run red lights downtown Port Townsend

## **Safety Analysis**

Next Nazmul reviewed the safety analysis highlighted at the last Corridor Working Group meeting last November. Nazmul commented that his team looked at the collision data from 2003 through 2007 in preparation of the safety analysis.

The most common factor in causing collisions in the study corridor was following too closely and then speeding. There were 411 crashes on SR 19 & SR 20 (within study area) between 2003 through 2007. Most collisions were rear end, hit at an angle, or hit a fixed object. On Washington highways, rear end crashes are the leading type of collision. The crashes recorded on SR 19 and SR 20 in the project area are less in number than on similar highways in the state.

Nazmul relayed to the group that in the rural section of the project area, half of the collisions were vehicles that ran off the road. In Segment 2, 50% of the collisions happened when the driver of the vehicle was making a left turn. In Segment 3, most of the intersection collisions occurred at Irondale and Prospect when drivers were making left turns onto the highway. Segment 4 had the only fatality during the analysis period when a vehicle crossed over the centerline and hit another vehicle head-on. Segment 5 had the most collision. Most were rear ends caused by following too closely and not granting right-of-way. Segment 6 is only one half of a mile long, and had 19 collisions. Most were rear ends caused by following too closely. Within the urban area there were 14 bicycle related collisions.

## **Existing and Future Traffic Conditions**

Nazmul mentioned that the study was utilizing Jefferson County's travel demand forecasting model. Using a graphic, he briefly explained the model calibration results. He noted that the model was well calibrated. He then showed some model results using two 'volume to capacity' (v/c) ratio graphics to illustrate existing and future traffic conditions. He commented that when the volume to capacity ratio is higher than 1, the traffic is higher than capacity – leading to congestion. Nazmul noted that the thickness of the line represents traffic volume, and darker colors represented higher v/c ratio. He relayed to the group that by 2031, the model results show traffic congestion within the city limits, and extending into segments 4 and 3. He mentioned Level of Service (LOS) analysis showed similar trends.

## **Evaluation Methodology**

Nazmul referred the group to a document in their handout titled 'Evaluation Methodology' that summarized the scoring method for each of the 18 specific criteria.

Nazmul explained that the evaluation methodology for the corridor plan is designed to provide an unbiased rating for each potential improvement option to assist in prioritizing and recommending improvements for implementation as funds become available. He then reminded the group that it was agreed upon that the Project Team would evaluate and score the potential improvement options by applying the criteria adopted by the group and present the results and preliminary tiered recommendations to the Corridor Working Group for discussion and input.

The 18 specific criteria were:

- 1). Safety
  - Safety (societal cost of collisions)
  - Safety for Non-Motorized
  - Safety for ADA and all users
- 2). Congestion/Mobility
  - Capacity (maximum sum of critical movements)
  - Level of Service (LOS)
  - Delay Reduction (vehicle hours in HCM)
  - Delay Reduction (vehicle hours in SimTraffic)
  - Freight Movement (truck)
  - Mobility of Non-Motorized
  - Mobility Access Balance
- 3). Feasibility/Constructability
  - Estimated Cost (planning level cost estimate)
  - Community Support
  - Mode Integration
  - Historic or Cultural Impacts
- 4). Environmental Impact
  - Wetlands, steep slopes, other
  - Vehicle Emission Reduction: Fuel Usage
  - Residential Impacts (acres or square foot)
  - Business Impacts (acres or square foot)

Nazmul took two criteria as examples and explained the scoring process. The Project Team conducted traffic, safety and other technical analyses to assist in the evaluation of each option during this process.

## Preliminary Tiered Recommendations and Top Priorities

Nazmul commented that Project staff has completed a scoring matrix for over 70 potential improvements. The highest scoring options are listed first. He then explained the Tier system stating that the Tier 1 projects are low cost high return projects, such as Intelligent Transportation System (ITS), turn lanes, and intersection improvements; Tier 2 are the moderate to higher cost projects that further reduces congestion on both highways and local roads, examples are auxiliary lanes and parallel corridors; Tier 3 projects are the highest cost and long range projects such as adding general purpose lanes and interchange improvements.

Nazmul then referred the group to the Tier 1, Tier 2, Tier 3, and Transportation Demand Management (TDM) lists in their handout packet and mentioned he will review with the group, the first five or so options from each in the interest of time.

He added comments from this meeting would be noted and requested additional comments be sent to him by August 12, 2009.

### Tier 1 Priority Ranking List

*["There is no single solution for traffic congestion, but experience has shown that we can reduce congestion by focusing on three key strategies: adding road capacity strategically, operating the system we have efficiently, and providing choices that help manage demand" – Moving Washington/Fighting Congestion].*

**Priority #1:** SR 19/Prospect Ave Intersection Control: traffic signal or roundabout  
Issue: 2 serious injury collisions within the 5-year analysis period, southbound left turning movement failing; westbound left and westbound right movements are also problematic.

Q: I think the collisions were before the new remarking of the roadway. Has WSDOT relooked at the left turns since the restriping of the roadway?

A: No, WSDOT hasn't looked at the current collision statistics since the restriping.  
*[Study team reviewed the collision data after the meeting: Restripe work began July 2006 and ended September 2006. This work created a southbound acceleration refuge on SR 19. Refuge is for westbound left movement from Prospect to southbound SR 19. Only enter-at-angle collisions from this turning movement will be reduced by this type of improvement. There was a total of one enter-at-angle collision resulting in a serious injury in the two years before 2006. In the two years after 2006, there were a total of two enter-at-angle collisions with one being serious and the other property damage only. Year 2006 was excluded since the refuge lane was created in that year. Safety reduction benefits for the southbound acceleration refuge appear inconclusive.]*

C: Motorists on Prospect trying to make a left turn onto SR 19 get frustrated by the number of cars backing up behind them; this causes them to take more chances when making a left turn.

C: Motorist speed faster than the posted 50 mph speed limit, so drivers making a left are hesitant to pull out

C: The roadway shoulders on Prospect are currently adequate, but they were a lot wider for bicyclists before the restriping was done. Shoulders need to remain adequate for bicyclists.

C: A high speed roundabout is not preferred by bicyclists. Roundabout application needs to be considered for bicyclist issues.

Q: SR 116 and SR 19 intersection is a Tier 2 project. Did WSDOT evaluate a roundabout at this intersection? If you changed it to a traffic signal, it would cost a lot less and make it into the Tier 1 improvements.

A: The approach lanes to the roundabout at this intersection made this a Tier 2 project. It also increased the cost of the project.

C: For the public meeting, break down the costs between a traffic signal and a roundabout.

C: The determination of a signal versus a roundabout is the subject of an analysis.

Q: We all agree that there are a lot of key intersections (Irondale Rd). Do you see a higher rating of collisions for serious injury or fatalities in the accident history?

A: In general we look at all types of collisions. A little change in data can change everything.

Q: Was the rate of change factored in? As traffic increases so do accidents.

A: We looked at collision rate for the corridor.

### **Priority #2: SR 20/Kearney Streets Intersection Control**

Issue: 1 serious injury in 5-year analysis period; eastbound left and southbound left failing; multiple conflicting movements; in close proximity to 5-legged Washington St.

C: This will also add turning lane channelization.

C: This is a high bike and pedestrian area

C: Don't encourage turn lanes.

C: The inbound left turn lane is inadequate. WSF has studied this intersection recently

C: Ferry offload traffic interferes with Washington

C: Vehicle traffic doesn't let vehicles turn left. Note - the locals allow room for the left turning vehicles; out of town traffic don't provide a gap for the left turning vehicles.

C: Kearney Street is a very challenging intersection for bicyclists and pedestrians. There isn't an out bound bike lane. Vehicles speed up Washington St. Cars are not looking for bicyclists or pedestrians in this area—Drivers are only looking for vehicles not pedestrians or bicyclists at this intersection.

C: When you're coming down Washington St., it's really difficult to see a bicyclist. The whole area is bad.

C: The left turn lane onto Kearney Street gets backed up.

C: Poor sight distance stop line at Washington

C: Washington and Kearney Streets need to be treated as one intersection.

C: There is also a lot of deer in the area—Motorists will stop for the deer which just adds to the dilemma

C: You have some really big semis trying to negotiate a roundabout

C: The city has designed their roundabouts to accommodate low boy trailers. It can be done.

**Priority #3:** SR 19/Chimacum-Center Intersection Control

Issue: Existing 4-way stop controlled; no channelization; LOS issues; nearby building and historical sites

**Priority #4:** SR 19/West Valley Intersection Control

Issue: Chimacum Schools – high bike-pedestrian activity, and school bus; eastbound left from West Valley to SR 19 is problematic; residences to the east  
C: The County is looking at improvements to the intersection crossing for bicyclists and pedestrians (Safety Crossing).

C: The grange hall hosts a Farmers Market on Sundays and is starting to host more activities in the evenings. Parking is a real problem for participants who end up parking across the street at the school or the community center.

**Priority #5:** SR 19/Oak Bay Channelization

Issue: One serious injury in the 5-year analysis period. Speeding is a problem and left turns are causing traffic to come to a complete stop.

Q: David would like WSDOT to maintain the shoulder width for bicyclists when installing channelization/left turn pockets

A: Roadway shoulder width is expected to be built out to design standards.

Expectations are that the 4' or 5' shoulder should remain in place. However, operational fixes sometimes reduce the width of the shoulders

C: Left turn movements from SR 19 to Oak Bay has a sight distance issue.

C: Irondale Rd is really important to the public—you may want to make it a top 6 list so the project is visible to the public.

C: The SR 20/Jacob Miller Road Channelization project ranked 19<sup>th</sup> on the list. However, this intersection has a high collision rate and is an important project to the city and county. The county is looking for a partnership approach between the city, county and WSDOT to get this intersection fixed. It should rank higher on the list.

Nazmul then reviewed the top five Tier 2 priority ranking projects with the group.

C: The Tier System is really confusing, so the county changed the word —“Tier” to —“Priority” when communicating with the public.

**Tier 2 Priority Ranking List**

**Priority #1:** SR 20/Port Townsend Entryway

Issue: Local agencies and WSDOT to define options. Requires systems approach to address Discovery-Mill and Jacob Miller intersection congestion and safety needs

C: New connection to Otto Rd is also part of this

**Priority #2:** SR 19/SR 116 Intersection Control

Issue: LOS issues on SR 19 southbound left and SR 116 westbound left; long queues; school bus, Navy trucks; possible right-of-way issues

**Priority #3:** SR 20/Sheridan Street Intersection Control and Westbound Climbing Lane

Issue: Existing 6% grade westbound access to the hospital; southbound left turn onto Sims Way has a sight distance problem

C: This is a bad intersection—high speed and confusing to drivers

C: Drivers coming up the hill are going 40-50 mph when they should only be traveling 30 mph. Need to move 30 mph speed limit sign approaching here

C: If someone is in the crosswalk, motorists don't have time to stop because of excessive speed

C: Does the climbing lane make warrants? Even if it does it may make motorists go faster

A: Met warrants

**Priority #4:** SR 20/Thomas Street Intersection Control

Issue: Improvements are currently underway. This work will help to alleviate congestion, improve safety; consider capacity improvements depending on future traffic growth

**Priority #5:** SR 19 and SR 20 Intersection Control

Issue: Heaviest traffic are the northbound through and southbound through on SR 19 and SR 20; added southbound through instead of double southbound right turn

C: High level volumes

C: Proposal right lane and through southbound. Potential for left turn motorists. Theater Rd is a problem.

C: Who knows who will purchase the old Courtesy Ford building. It may increase traffic.

**Tier 3 Priority Ranking List**

**Priority #1:** SR 19/SR 104 Flyover Ramp

Issue: SR 19 southbound left movement has congestion issues, traps southbound right; long queues and delay; development—materials site  
Region management thinks that this is an expensive solution. The at-grade solution was less expensive—3b in Tier 2 ranking.

Note: the next 3 projects are capacity related. The long term solution is based on future traffic growth and congestion.

**Priority #2:** SR 20/Discovery-Mill to Washington St.: Segment 5 widening to 4-lanes  
[WSDOT will meet with the City to discuss off-system improvements]

Issue: Congestion

**Priority #3:** SR 20/SR 19 to Discovery-Mill: Segment 4 widening to divided 4-lanes  
Issue: Congestion; large ROW footprint for rural full design

**Priority #4:** SR 19/SR 116 to SR 20: Segment 3 widening to 4-lanes

Issue: Congestion; large ROW footprint for rural full design

C: There are no bike lanes eastbound by the ferry holding lanes

C: Less experienced riders are not comfortable riding their bikes in traffic

C: SR 116 is a hazard—school buses, bicyclists, and trucks to and from Indian Island are an accident just waiting to happen. The roadway shoulders are just not there.

C: SR 116 is a designated route

### **Transportation Demand Management (TDM) List:**

Transportation Demand Management (TDM) is an umbrella term for strategies that reduce vehicle trips or shift use of the roadway to off-peak periods.

Nazmul referenced the TDM list and mentioned that demand management is one of WSDOT's important strategies to fight congestion. TDM list include the low cost, low environmental impact solutions such as bus stops, park and ride lots, and Highway Advisory Radio (HAR). Jefferson Smart Trips is in this list too as it is a package of TDM solutions. The idea is to look at these as grants and other funding opportunities become available.

### **Smart Trips Update**

Next Nazmul turned the meeting over to Josh Peters to discuss the Smart Trips Update. Josh commented to the group that Smart Trips is just the name of a program created by Whatcom County to encourage participants to walk, bike, share a ride and ride the bus instead of driving alone.

Josh relayed that Port Townsend and Port Hadlock have traffic congestion problems now and that they will get even worse in the years to come. The goal is to get people out of the single occupancy vehicle state of mind. The county is looking at a variety of ways to get people to utilize other methods of transportation. The Transportation Lab promotes non-motorized users. Jefferson Transit has received funds to hire a temporary Mobility Manager. This position will help encourage community members to try and use other transportation modes.

Josh then distributed a draft handout summarizing a proposal for Jefferson Smart Trips program for inclusion in the corridor plan document.

The working draft was developed by the Port Townsend Transportation Lab and reviewed by local agency staff. The draft handout includes minor edits offered by local agency staff.

Josh then turned the meeting back over to Nazmul.

### **Projects of Special Interest**

Nazmul highlighted three 'projects of special interest' that seems to resonate with the community and requested the group's input.

- 1). SR 20/Port Townsend Entryway Study
- 2). SR 19/Prospect Avenue Intersection Control
- 3). SR 19/SR 116 Intersection Control

C: Kearney Intersection is worse than Prospect Ave and SR 116.

C: The committee should pick a list to present to the public. The Tier system is too confusing

C: Kearney/Washington St should move up in the ranking

C: SR 19/Prospect Ave was ranked before the improvements were made

C: Fire station on airport with emergency signal

C: The speed limit on Kearney/WA is only 25 mph—Prospect Ave is a lot higher

C: Prospect Ave intersection needs to be on this list. It is a finite event.

C: Add future plans column then indicate future fire station at Prospect Ave

C: We may be able to get grant money if we list more projects in the Top Projects of Special Interest.

C: During summer peak, at SR 104/SR19 the traffic backs up way past the visitor center. It is a safety hazard. The left turn problems need to be fixed.

C: West Valley Rd is hopefully part of the Safe Routes to School program.

Since the meeting was overtime, Nazmul thanked the participants for their time and ended the meeting.

###

# SR 19/20 Corridor Plan Final Corridor Working Group Meeting

## Agenda

October 28, 2009  
10:00 AM to Noon  
WSU Extension (Learning Center)  
Spruce Meeting Room

- |               |  |
|---------------|--|
| 10:00 – 10:05 | <b>Welcome and Introductions</b>   |
| 10:05 – 10:15 | <b>Recap Meetings/Open House Recap</b><br>Star voting results<br>Stakeholder and public comments                 |
| 10:15 – 10:35 | <b>Corridor Plan Report Outline</b>  |
| 10:35 – 10:50 | <b>Plan Implementation</b><br>Highway System Plan<br>Developer, legislative champion<br>Grants and other funding |
| 10:50 – 11:45 | <b>Study Recommendations and Priorities</b><br>(includes discussion and comments)                                |
| 11:45 – 12:00 | <b>Next Steps</b><br>Public meeting / open house<br>Report preparation, printing, and distribution               |

**SR 19/SR 20 Corridor Plan  
Corridor Working Group Meeting #4  
October 28, 2009**

**Attendees:**

Andy Pernsteiner, Jefferson County Sheriff's Office  
Linda Pfafman, Jefferson County Traffic Safety Task Force  
Dave Turissini, Jefferson Transit  
David Sullivan, Jefferson County Commissioner  
Katherine Baril, Team Jefferson  
Rick Sepler, City of Port Townsend  
Wayne Nagy, NAVMAG Indian Island  
Josh Peters, Jefferson County Public Works  
Tom Thiersch, Interested Citizen  
Bob Jones, WSDOT  
John Donahue, WSDOT  
Nazmul Alam, WSDOT  
Forest Suttmiller, WSDOT  
Debbie Clemen, WSDOT

**Welcome and Introductions**

Nazmul Alam introduced himself and welcomed those in attendance to the final corridor working group meeting for this project. Nazmul then initiated self-introductions of those present. After the introductions, he reviewed the room logistics with the group. Next, Nazmul referenced the meeting packet and its contents and reviewed the meeting agenda.

**Open House Recap**

Nazmul informed the working group members that in their handout packet is a copy of the meeting summary from the open house held at the Chimacum Creek Primary School on August 27, 2009. Nazmul relayed the highlights of the open house to the group. He commented that at the open house attendees were given 3 star-shaped stickers to affix next to projects of special interest to them. He highlighted the results as follows:

**Star voting results**  
**PROJECTS OF SPECIAL INTEREST\***  
 (from north to south)

Project Number	Description of Potential Improvement Option	Star-Vote
65	SR 20/Kearney Street Intersection Control***	3
51a	SR 20/Port Townsend Entryway Study (Discovery-Mill/Jacob Miller Vicinity)	⑫
41	SR 19 and SR 20 Intersection Control***	1
35	SR 19/Prospect Avenue Intersection Control***	⑰
31	SR 19/Irondale Intersection Control***	3
23	SR 19/SR 116 Intersection Control***	⑩
18	SR 19/West Valley Intersection Control***	2
3b	SR 19/SR 104 Intersection Control***	⑧

\*Corridor Working Group Recommendations    \*\*\*Signal or Roundabout

He noted that these locations also ranked high in the criteria-based alternatives evaluation conducted by the project team. This information indicates to us that we are targeting the right solutions. He stated: we are not proposing any changes to the Projects of Special Interest from that viewed at the open house. We are moving forward with these.

Nazmul mentioned over 30 written comments were received at the open house. He summarized as follows:

- Support for improvements at SR 19/116 intersection
- Support for a traffic signal and deceleration lanes for right turns at SR 19/Prospect Avenue
- Port Townsend Entryway, change to a roundabout
- SR 19/SR 104 intersection: the only good solution is to make it an interchange with an overpass taking SR 19 over SR 104 to merge eastbound on SR 104. Any short term solutions should take into account the long term solution—an overpass
- SR 19/Oak Bay- support for a southbound left turn lane at this location
- SR 20/Sheridan, there is support for a traffic signal to create a break in traffic—a roundabout won't work at this location
- SR 19/Airport-Woodland Drive, a signal is preferred
- Left turn lanes needed at a variety of locations
- Participants supported TDM strategies and non-motorized options
- Participants also supported maintaining scenic and cultural values as well as maintaining farming valley and historic character

## **Corridor Plan Report Outline**

Nazmul displayed a typical corridor plan report outline. He commented that the SR 19 & SR 20 report will package information presented over the course of the study.

- Executive Summary
- Chapter 1: The Purpose of the Corridor Plan
- Chapter 2: Existing Route Characteristics
- Chapter 3: The Study Process
- Chapter 4: Stakeholder Recommendation
- Chapter 5: Alternatives
- Appendix A: Route Classifications
- Appendix B: Physical Characteristics
- Appendix C: Utility Locations
- Appendix D: Traffic Analysis
- Appendix E: Collision History
- Appendix G: Stakeholder Meetings
- Appendix H: Public Meetings

He briefly referenced some of the items of information presented at the various working group meetings. He also mentioned that the project team highlighted the study process throughout, either through the decision-making process flow chart, project schedule, study overviews or next steps information. We will document the process in the report as well.

He noted the report will also reference the Washington State Ferries (WSF) Long Range Plan. In WSF's plan two landside improvements are highlighted for this area. The first improvement is the relocation of ferry boat ticket booths into a parallel formation for more efficient service. The other improvement mentioned is the implementation of a new reservation system.

## **Plan Implementation**

Nazmul mentioned it is important to note that all of the study recommendations are unfunded at this time. Once the study is approved, projects meeting certain criteria can be added to the Highway System Plan (HSP) to compete statewide for transportation funding.

WSDOT is currently in the process of developing the 2011-2030 Highway System Plan, and the Olympic Region is responsible for updating and building on the mobility portion of the existing 2007-2026 HSP.

The following is a list of locations that Olympic Region has proposed to analyze in further detail in Jefferson County for possible inclusion into the HSP. These unfunded solutions will go through a more in-depth analysis – alternatives, traffic, benefit/cost ratio to ensure only the most cost effective solutions are advanced.

- Port Townsend Entryway
- SR 20/Kearney
- SR 19/SR116
- SR 19/SR 20
- SR 19/Prospect
- SR 19/SR 104

They will need to meet some stringent requirements though. The majority of these solutions will be along mainline state routes that operate below 70% of the posted speed prior to 2030. Speeds, lower than this threshold, are Level of Service F in a report card grading scale.

Once projects are listed in the corridor plan, developers can contribute towards improvements. These improvements can also be funded by legislative champions. Local communities can also fund projects by obtaining grants from several different funding sources.

Commissioner Sullivan asked how the Peninsula RTPO can support projects. He then commented that the general public would really appreciate it if as many projects as possible could be coordinated. Hopefully, this way the roadway doesn't have to be torn up more than once.

#### **Study Recommendations and Priorities:**

Nazmul reviewed the study recommendation and priorities with the group. He reminded the group what the different Tier levels indicated.

He relayed that Tier 1 projects focus on low-cost projects that deliver a high return on capital investment and have a short delivery schedule. These types of projects include: incident management, Intelligent Transportation System (ITS), access management projects, turn lanes and intersection improvements.

Tier II projects focus on moderate to higher-cost improvements that further reduce congestion on both highways and local roads. These types of projects include: improvements to parallel corridors, adding auxiliary lanes, and direct access ramps.

Tier III projects focus on the highest-cost projects that can deliver corridor-wide benefits. These types of projects include: adding general purpose lanes and interchange modifications, HOV/HOT lanes, and commuter rail.

Nazmul then highlighted the minor revision made to the project lists. He stated that in the Tier 1 list there were no changes. In the Tier 2 list there were two changes in project number #3b and #2. Initially, for project #3b an at-grade lower cost option was analyzed but that didn't pan out. This resulted in phasing out the ultimate long term solution which is 3a. He remarked that project #2 was added as a lower cost option to help with the left and right turn movements.

In the Tier 3 list, there were two changes. Long-term solution #3a phasing has already been mentioned. The other change was to project #55 – text was added as highlighted in the handout. Note- the City of Port Townsend is interested in looking at drawing demand off of SR 20 through development of parallel corridors.

The Transportation Demand Management (TDM) list had minor changes for project #39 and #22. The previous description didn't have "access management" wording. This was captured in the revised description for these two projects.

Another change was in project #1 (Smart Trips). Now it is project #1a and #1b. Project #1a is a feasibility study supporting a comprehensive program to encourage alternative transportation choices', and 1b is its implementation.

Nazmul mentioned this change was made after discussions with WSDOT Public Transportation office. A draft Jefferson Smart Trips document developed by the Transportation Lab was reviewed and discussed. It was determined a higher level approach would be appropriate keeping goals and visions intact.

The purpose of the feasibility study is to establish the configuration of a comprehensive program, through establishing baseline travel conditions and user community; defining collaborative model through stakeholder involvement; confirming assumptions and goals through stakeholder process; identifying options for program configuration; reporting on relative benefits and costs of options; and developing and documenting a recommended configuration.

Dave Turissini commented that we want to stay away from the brand name that Whatcom County had, but still implement the goals. He added this community is interested in this.

John Donahue noted we discussed this change with local agency representatives and drafted the handout titled Comprehensive Program to Encourage Alternative Transportation Choices'. The handout highlights the vision and goals for the feasibility study.

## **Next Steps**

The corridor working group members were informed that the project's final public open house is scheduled for Thursday, Nov. 19<sup>th</sup> at the Chimacum Middle School in the Commons (Cafeteria) from 3:30 p.m. to 6:30 p.m. Postal Customer flyers would

be mailed out early next week. It was mentioned that the final study recommendations would be shared with the public at the open house.

Nazmul commented that only a limited number of hard copies of the plan will be printed. However, compact discs of the document will be readily available. He then asked the group if they had a preference between receiving a hard copy of the SR 19 & 20 Corridor Plan document or the compact disc version. Katherine Baril relayed her preference for a hard copy.

Bob Jones thanked the members for their participation in the study. He then commented that we are trying to put as much information from this plan into the HSP. This may give the community additional bonus points when applying for grant assistance if the project is listed in more than one plan.

Nazmul also extended his appreciation to the group for all of their support and assistance. He then relayed how much he enjoyed meeting and working with each of the members.

Commissioner Sullivan commented that this community wants to manage what we have. Looking at all the options and managing what we have is the best option. Thank you DOT for getting to know our community. This is important to everyone.

###

## Appendix F – Corridor Working Group Recommendations

### Projects of Special Interest

Following are the projects of special interest based on Corridor Working Group recommendations and public input. These projects seem to resonate with the community and carried the most public interest and support.

#### PROJECTS OF SPECIAL INTEREST RECOMMENDED BY STAKEHOLDERS

Priority with all scores	Score based on likely Benefit Cost	Project Number	TOTAL SCORE	Description of Potential Improvement Option	* Tiered Solution Number	State Route	Corridor Segment	Begin Milepost	End Milepost	Estimated Cost (low range in 2009 dollars)	Estimated Cost (high range in 2009 dollars)
2	5	65	76	SR 20/Kearney Streets Intersection Control***	1	20	5	12.01	12.01	\$939,600	\$1,252,800
8	N/A	51a	68	SR 20/Port Townsend Entryway Study (Discovery-Mill/Jacob Miller Vicinity)	1	20	4	9.57	9.81	\$450,000	\$600,000
11	5	41	64	SR 19 and SR 20 Intersection Control***	2	19 and 20	4	13.84 and 7.79	14.09 and 8.02	\$2,172,600	\$2,896,800
1	5	35	79	SR 19/Prospect Avenue Intersection Control***	1	19	3	12.32	12.43	\$1,156,500	\$1,542,000
5	1	31	71	SR 19/Irondale Intersection Control***	1	19	3	11.52	11.76	\$1,527,300	\$2,036,400
8	1	23	68	SR 19/SR 116 Intersection Control***	2	19	3	10.54	10.83	\$3,573,900	\$4,765,200
3	1	18	74	SR 19/West Valley Intersection Control***	1	19	2	9.43	9.61	\$2,107,800	\$2,810,400
12	1	3b	63	SR 19/SR 104 Intersection: Phase I of Flyover Ramp (SR 104 Undercrossing)***	2	19	1	0.00	0.18	\$7,470,000	\$9,960,000

\*\*\*Signal or roundabout subject to planning and design analysis

## Tier I Recommendations

Priority with all scores	Score based on likely Benefit Cost	Project Number	TOTAL SCORE	Description of Potential Improvement Option	* Tiered Solution Number	State Route	Corridor Segment	Begin Milepost	End Milepost	Estimate Cost (low range in 2009 dollars)	Estimated Cost (high range in 2009 dollars)
1	5	35	79	SR 19/Prospect Avenue Intersection Control***	1	19	3	12.32	12.43	\$1,156,500	\$1,542,000
2	5	65	76	SR 20/Kearney Streets Intersection Control***	1	20	5	12.01	12.01	\$939,600	\$1,252,800
3	1	14	74	SR 19/Chimacum-Center Intersection Control***	1	19	2	9.09	9.09	\$2,061,900	\$2,749,200
3	1	18	74	SR 19/West Valley Intersection Control***	1	19	2	9.43	9.61	\$2,107,800	\$2,810,400
4	5	6	72	SR 19/Oak Bay Channelization	1	19	1	1.53	1.73	\$936,900	\$1,249,200
5	1	31	71	SR 19/Irondale Intersection Control***	1	19	3	11.52	11.76	\$1,527,300	\$2,036,400
5	3	48	71	SR 20/Seton or Fredricks Street Intersection Control***	1	20	4	8.96	9.21	\$1,339,200	\$1,785,600
6	3	62	70	SR 20/Haines Place Intersection Control***	1	20	5	11.44	11.58	\$1,231,200	\$1,641,600
7	5	21	69	SR 19/Anderson Lake Road Channelization	1	19	2	9.96	10.05	\$1,996,200	\$2,661,600
8	N/A	51a	68	SR 20/Port Townsend Entryway Study	1	20	4	9.57	9.81	\$450,000	\$600,000
8	1	20	68	SR 19/H. J. Carroll Park Road Channelization	1	19	2	9.81	9.95	\$954,900	\$1,273,200
10	1	38	65	SR 19/Airport-Woodland Drive Intersection Control***	1	19	3	12.82	13.03	\$2,225,700	\$2,967,600
13	1	47	62	SR 20/Fredricks Street Channelization	1	20	4	8.96	9.21	\$907,200	\$1,209,600
13	3	63	62	SR 20/12th Avenue Channelization	1	20	5	11.65	11.72	\$243,000	\$324,000
14	1	10	61	SR 19/Egg & I Channelization	1	19	1	4.39	4.70	\$2,231,100	\$2,974,800
15	1	44	60	SR 20/Old Fort Townsend Channelization	1	20	4	8.23	8.27	\$259,200	\$345,600
16	1	8	59	SR 19/Larson Lake Road Channelization	1	19	1	2.46	2.73	\$2,357,100	\$3,142,800
16	1	40	59	SR 19/Parkridge Drive Channelization	1	19	3	13.80	13.96	\$1,131,300	\$1,508,400
16	1	50	59	SR 20/Jacob Miller Road Channelization	1	20	4	9.57	9.68	\$486,000	\$648,000
19	1	9	55	SR 19/Swansonville Road Channelization	1	19	1	4.22	4.54	\$3,975,300	\$5,300,400
19	1	32	55	SR 19/Four Corners Road Channelization	1	19	3	11.83	11.87	\$504,900	\$673,200

\*\*\*Signal or roundabout subject to planning and design analysis

## Tier II Recommendations

Priority with all scores	Score based on likely Benefit Cost	Project Number	TOTAL SCORE	Description of Potential Improvement Option	* Tiered Solution Number	State Route	Corridor Segment	Begin Milepost	End Milepost	Estimated Cost (low range in 2009 dollars)	Estimated Cost (high range in 2009 dollars)
8	1	51b	68	SR 20/Port Townsend Entryway*** (Discovery-Mill/Jacob Miller Vicinity)	2 or 3	20	4	9.57	9.81	\$7,213,500	\$9,618,000
8	1	23	68	SR 19/SR 116 Intersection Control***	2	19	3	10.54	10.83	\$3,573,900	\$4,765,200
9	3	58	67	SR 20/Sheridan Street Intersection Control*** and WB Climbing Lane	2	20	5	10.82	11.07	\$1,458,000	\$1,944,000
10	1	57	65	SR 20/Thomas Street Intersection Control***	2	20	5	10.40	10.66	\$4,005,900	\$5,341,200
11	5	41	64	SR 19 and SR 20 Intersection Control***	2	19 and 20	4	13.84 and 7.79	14.09 and 8.02	\$2,172,600	\$2,896,800
14	1	3b	63	SR 19/SR 104 Intersection: Phase I of Flyover Ramp (SR 104 Undercrossing)***	2	19	1	0.00	0.18	\$7,470,000	\$9,960,000
14	1	2	62	SR 19/SR 104 Auxiliary Lane (two way left turn lane channelization)***	2	19	1	0.00	0.18	\$1,169,100	\$1,558,800
14	1	56	61	SR 20/Howard Street Intersection Control***	2	20	5	10.10	10.36	\$4,005,900	\$5,341,200
17	3	4	58	SR 19/Segment 1 (SR 104 to Chimacum-Center), Pullouts for slow vehicles and law enforcement	2	19	1	0.00	9.09	\$194,400	\$259,200
18	1	7	57	SR 19/Belfage Road to Larson Lake Road Passing Lane	2	19	1	2.00	2.61	\$4,350,600	\$5,800,800
20	3	36	54	SR 19/Prospect Avenue to Theater Road Passing Lane	2	19	3	12.66	13.60	\$5,271,300	\$7,028,400

\*\*\*Signal or roundabout subject to planning and design analysis

### Tier III Recommendations

Priority with all scores	Score based on likely Benefit Cost	Project Number	TOTAL SCORE	Description of Potential Improvement Option	* Tiered Solution Number	State Route	Corridor Segment	Begin Milepost	End Milepost	Estimated Cost (low range in 2009 dollars)	Estimated Cost (high range in 2009 dollars)
12	1	3a	63	SR 19/SR 104 Phase 2 Flyover Ramp or Interchange	3	19	1	0.00	0.18	\$34,740,000	\$46,320,000
15	1	55	60	SR 20/Discovery-Mill to Washington Street Segment 5 - Widening to 4-Lanes or reducing demand through development of parallel corridors	3	20	5	9.81	12.07	\$32,158,800	\$42,878,400
19	3	43	55	SR 20/SR 19 to Discovery-Mill Segment 4 Widening to Divided 4-Lanes	3	20	4	7.79	9.81	\$22,405,500	\$29,874,000
21	1	28	53	SR 19/SR 116 to SR 20 Segment 3 Widening to 4-Lanes	3	19	3	10.68	14.09	\$72,412,650	\$96,550,200

\*\*\*Signal or roundabout subject to planning and design analysis

## Transportation Demand Management (TDM) and Intelligent Transportation Systems (ITS)

Project Number	Description of Potential Improvement Option	* Tiered Solution Number	State Route	Corridor Segment	Begin Milepost	End Milepost	Estimated Cost (low range in 2009 dollars)	Estimated Cost (high range in 2009 dollars)
N/A	Intelligent Transportation System (ITS). Highway Advisory Radio (HAR) signs and transmitter in vicinity of Chimacum-Center	1	19	2	9.09	9.09	\$63,000	\$84,000
N/A	Intelligent Transportation System (ITS). Highway Advisory Radio (HAR) signs and transmitter in vicinity of SR 19/SR 20	1	20	4	7.85	7.85	\$63,000	\$84,000
29	Transportation Demand Management (TDM)** Transit stop at W. Patison Street	1	19	3	11.45	11.45	\$97,200	\$129,600
39	Access Management** Combine accesses with Transit stop at Theater Road	1	19	3	13.60	14.03	\$97,200	\$129,600
45	Transportation Demand Management (TDM)** Transit stop at Old Fort Townsend Road	1	20	4	8.26	8.26	\$97,200	\$129,600
60	Transportation Demand Management (TDM)** Provide pedestrian crossing to hospital district (similar to design at Hendricks Street).	1	20	5	10.93	10.93	\$119,700	\$159,600
49	Transportation Demand Management (TDM)** Transit stop at Fredricks Street	1	20	4	8.97	8.97	\$129,600	\$172,800
42	Transportation Demand Management (TDM)** Separated non-motorized trail through Courtesy Ford north to Glen Cove via Otto Street with a southeast connection to Kala Point via Parkridge Drive.	3	19 and 20	4	13.87	8.26	\$1,575,000	\$2,100,000
15	Transportation Demand Management (TDM)** Chimacum-Center park & ride lot (20-stalls)	1	19	2	9.09	9.10	\$476,100	\$634,800
19	Transportation Demand Management (TDM)** Separated non-motorized trail with pedestrian crossings at West Valley and H.J. Carroll Park Roads (at-grade crossings could go further north to Anderson Lake Road with a tunnel proposal near H.J. Carroll)	3	19	2	9.54	9.87	\$597,600	\$796,800
5	Transportation Demand Management (TDM)** Improve existing 40-stall visitor center/park and ride lot or develop new lot.	1	19	1	0.06	0.12	\$648,000	\$864,000
27	Transportation Demand Management (TDM)** SR 116 park & ride lot (assume 40 stalls)	1	19	3	10.68	10.68	\$953,100	\$1,270,800
1a	Transportation Demand Management (TDM)** Feasibility Study supporting a comprehensive program to encourage alternative transportation choices	1	19 and 20	1 to 6	N/A	N/A	\$100,000	\$125,000
1b	Transportation Demand Management (TDM)** Implementation of a comprehensive program to encourage alternative transportation choices (3 years)	1	19 and 20	1 to 6	N/A	N/A	\$1,215,000	\$1,620,000
16	Transportation Demand Management (TDM)** Shoulder widening from SR 19/Chimacum-Center to West Valley (with sidewalks?) for bikes/pedestrians	2	19	2	9.09	9.54	\$3,087,900	\$4,117,200
59	Transportation Demand Management (TDM)** Complete discontinuous sidewalks in Port Townsend (Grant to Jefferson)	2	20	5	10.87	11.91	\$3,369,600	\$4,492,800
22	Access Management** SR 19/Hilda Street to Irondale Road Shoulder widening (with sidewalks?) for bikes/pedestrians	2	19	2 and 3	10.47	11.61	\$3,693,600	\$4,924,800

\*\*TDM is an umbrella term for strategies that reduce vehicle trips or shift use of the roadway to off peak periods. Intelligent Transportation Systems (ITS) is the application of computers, communications & sensor technology to surface transportation.

# **Appendix G – Comprehensive Program to Encourage Alternative Transportation Choices**

## Comprehensive Program to Encourage Alternative Transportation Choices

### Introduction

The State Office of Financial Management population projections, employment growth forecasts, and recently land use model estimates, suggest that the communities of the Quimper Peninsula in Jefferson County will experience significant growth over the next 20 years. This growth is expected to increase traffic congestion, intersection delay, and travel time along state highways and local roadways in the vicinity of these communities.

### Vision

Increasing alternative transportation choices like walking, bicycling, transit, ridesharing, vanpooling, and other Transportation Demand Management (TDM) strategies all have the potential to reduce single occupancy vehicle (SOV) trips, overall vehicle miles of travel, traffic congestion along highways and local roads, and ultimately green house gases generated from transportation. A comprehensive program is proposed to promote these alternative transportation choices by establishing a community-based collaborative approach to providing information, assistance, encouragement (through incentives and other methods).

The purpose of this feasibility study is to build on successes and establish the configuration of a comprehensive program to encourage the use of transportation alternatives serving the Quimper Peninsula.

### Goals

- To establish baseline travel conditions and user community
- To define collaborative model through stakeholder involvement strategy
- To confirm program assumptions and goals through stakeholder process
- To identify options for program configuration, strategies, and implementation
- To investigate and report on relative benefits and costs of program options
- To develop and document recommended configuration for review and comment

The feasibility study will reference and build on the work communities have already accomplished. These include transit enhancements such as increasing transit ridership, installing bike lockers, providing commuter service; City of Port Townsend's non-motorized transportation plan, with an active committee that meets frequently; and Jefferson County's improvement of the Larry Scott Trail and other improvements. The feasibility study will reference the results of community events such as the half-day community workshop sponsored by the Transportation Lab and Jefferson Transit, and others.

## Appendix H – Evaluation Methodology

The evaluation methodology for the SR 19/20 Corridor Plan is designed to provide an unbiased rating for each potential improvement option to assist in prioritizing and recommending improvements for implementation as funds become available. The Corridor Working Group (CWG) deliberated upon and adopted a Vision Statement for the corridor and an Alternatives Evaluation Criteria. These were based on goals and policies found in state, regional, and local plans and policies. The Vision Statement and Criteria were shared at two public meetings for public input. Public comments were incorporated into the final adopted version.

It was agreed upon that the Project Team would evaluate and score the potential improvement options by applying the criteria and present the results and preliminary tiered recommendations to the Corridor Working Group for discussion and input.

The evaluation criteria include the following categories:

- Safety
- Congestion/Mobility
- Feasibility/Constructability
- Environmental Impact

Specific evaluation criteria for each category are listed below by category:

- Safety
  - Safety (Societal Cost of Collisions)
  - Safety for Non-Motorized
  - Safety for ADA and all users
- Congestion/Mobility
  - Capacity (Maximum Sum of Critical Movements)
  - Level of Service
  - Delay Reduction (Vehicle-Hours in HCM - 10 min. max. ave. wait)
  - Delay Reduction (Vehicle-Hours in SimTraffic)
  - Freight Movement (Truck)
  - Mobility for Non-Motorized
  - Mobility Access Balance
- Feasibility/Constructability
  - Estimated Cost (Planning Level Cost Estimate)
  - Community Support
  - Mode Integration
  - Historic or Cultural Impacts
- Environmental Impact
  - Wetlands, steep slopes, other
  - Vehicle Emission Reduction: Fuel Usage
  - Residential Impacts (acres or square foot)
  - Business Impacts (acres or square foot)

# Appendix I – Evaluation Scoring

## EVALUATION CRITERIA & SCORING SUMMARY

**Safety:** (Maximum Points – 25)

- Safety (Societal Cost of Collisions)

Score for 20-year analysis period based upon annualized number of collisions (1/1/03 to 12/31/07) and WSDOT societal cost for type of collision (property damage only, possible injury, evident injury, serious injury, and fatality), and crash reduction percentage factor for potential improvement options.

Data sources: WSDOT collision data warehouse (1/1/03 to 12/31/07); potential improvement options based upon 2031 design hour volumes (Channelization, Signal and Channelization, roundabout, etc.); safety benefits worksheet from mobility prioritization workbook; and 1978 and/or 2007 crash reduction factors (CRF).

Scoring:	5 = \$2,661,901 to \$3,327,376
	4 = \$1,996,426 to \$2,661,901
	3 = \$1,330,950 to \$1,996,426
	2 = \$665,475 to \$1,330,950
	1 = \$0 to \$665,475
	0 = \$ 0

- Safety for Non-Motorized

### Pedestrian Demand:

Scoring:	5 = high pedestrian demand
	4 = higher than moderate
	3 = moderate pedestrian demand
	2 = lower than moderate
	1 = low pedestrian demand

### Bicycle Demand:

Scoring:	5 = high bicycle safety potential
	4 = higher than moderate
	3 = moderate bicycle safety potential
	2 = lower than moderate
	1 = low bicycle safety potential

**Pedestrian Safety:**

Scoring: 5 = high pedestrian safety potential  
 4 = higher than moderate  
 3 = moderate pedestrian safety potential  
 2 = lower than moderate  
 1 = low pedestrian safety potential

**Bicycle Safety:**

Scoring: 5 = high bicycle demand  
 4 = higher than moderate  
 3 = moderate bicycle demand  
 2 = lower than moderate  
 1 = low bicycle demand

**Speed:**

Scoring: 3 = low speed  
 2 = moderate speed  
 1 = high speed

General note: higher rating for illuminated intersection, painted crosswalk

Safety for Non-Motorized						
Pedestrian Demand Score	Bicycle Demand Score	Pedestrian Safety Score	Bicycle Safety Score	Speed Score	Average Score	Comments
4	5	4	4	3	4	Assumes full bicycle/pedestrian accommodation (adequate shoulder or sidewalk)

**Safety for ADA Users:**

Scoring: 5 = Exceeds minimum standards  
 3 = No change/Neutral  
 1 = Not applicable (N/A)

## Assumptions for Safety for ADA:

1. ADA accommodation – A route facility that maintains 5% and 2% standard and 4' minimum width
2. WSDOT Construction will Build to Compliance
3. WSDOT will not prohibit pedestrian access
4. Roadway shoulders shall meet minimum design standards
5. Sidewalks – 6' with curb, 5' with landscape buffer
6. Rural roadway does not require sidewalks (need contributing factors)
7. Hot mix asphalt (HMA) intersections without curbs do not require ramps and detectable warning devices
8. Typically WSDOT will not perform maintenance of sidewalks
9. Assume transit stops at listed locations – both directions and will require pullout.
10. Flag stop not permissible – to be listed as formal stops
11. All current sidewalk ramps will be brought up to standard
12. Audible pedestrian enhancements suitable for conditions
13. Assume Segment 5 as pedestrian generator corridor

## Congestion/Mobility: (Maximum Points – 25)

- Capacity (Maximum Sum of Critical Movements)

Note: Based on sum of critical design hour volumes in 2031. This is a Mobility planning level screening that will identify over capacity intersections.

Scoring:	5 = 1642+
	4 = 1390 to 1642
	3 = 1138 to 1390
	2 = 885 to 1138
	1 = 633 to 885

- Level of Service

2031 Level of Service LOS with improvements (Based on the 2000 Highway Capacity Manual analysis procedures)

Scoring:	5 = LOS A, B
	4 = LOS C
	3 = LOS D
	2 = LOS E
	1 = LOS F

- Delay Reduction (Vehicle-Hours in HCM - 10 min. max. ave. wait)

HCM Channelization Rating:

Scoring:	5 = 128 to 160
	4 = 96 to 128
	3 = 64 to 96
	2 = 32 to 64
	1 = 0 to 32

HCM Signal Rating (proportional distribution from negative 100 to positive 235):

Scoring:	5 = 168 to 235
	4 = 101 to 168
	3 = 34 to 101
	2 = -33 to 44
	1 = -100 to -33

- Delay Reduction (Vehicle-Hours in SimTraffic)

Note: The 2031 No Build low range vehicle-hours of delay assumes 600 seconds (10 minutes) of maximum wait delay per vehicle.

SimTraffic channelization rating (proportional distribution from negative 182 to positive 132) :

Scoring:	5 = 69 to 132
	4 = 6 to 69
	3 = -56 to 6
	2 = -119 to -56
	1 = -182 to -119

SimTraffic signal rating (proportional distribution from negative 192 to positive 190):

Scoring:	5 = 114 to 190
	4 = 37 to 114
	3 = -39 to 37
	2 = -119 to -56
	1 = -182 to -119

SimTraffic 1-lane roundabout rating (proportional distribution from negative 218 to positive 187):

Scoring:	5 = 106 to 188
	4 = 25 to 106
	3 = -56 to 25
	2 = -137 to -56
	1 = -215 to -137

SimTraffic 2-lane roundabout rating (proportional distribution from negative 95 to positive 207):

Scoring:	5 = 146 to 207
	4 = 86 to 146
	3 = 25 to 86
	2 = -35 to 25
	1 = -95 to -35

- Freight Movement (Truck)

Percentage of trucks on SR 19 and SR 20 in the study corridor ranges from 7.28% to 12.48%.

Truck % Score:

Scoring:	5 = 12.48 and above
	4 = 11.18 to 12.48
	3 = 9.88 to 11.18
	2 = 8.58 to 9.88
	1 = 7.28 to 8.58

Average Freight Score = (LOS Score + Delay Reduction Score + Truck % Score)/3

- Mobility for Non-Motorized

Scoring:	5 = Exceeds minimum standards (bike storage lane)
	4 = Meets standard (roundabout)
	3 = Neutral (channelization, passing lanes)
	2 = Less than neutral
	1 = Not applicable (N/A)

### Assumptions for Mobility for Non-Motorized:

1. Roundabouts will have sidewalks
2. North of Chimacum-Center, every intersection has current or future demand for Transit stop and possible pullout
3. Design considerations at the design stage
4. Each intersection can be an exception
5. Signalized intersections presupposed for crosswalk
6. Every signal will have pedestrian accommodation, push button activation, and channelized crosswalk
7. WSDOT won't provide higher accommodation because of maintenance costs
8. WSDOT not supportive of in-line pavement flashing lights
9. Shoulder rumble strips will not be permitted with less than 4' rideable shoulder and 45 mph posted speed
10. Signal detector loops

- Mobility Access Balance

The travel time (mainline + side street) at each intersection were divided by the percent volume throughput to create a ratio for ~32 intersection locations within six corridor scenarios. The five build travel time and percent volume throughput ratios for a 2-lane facility, and one for a partial 4 lane facility were compared against each other to create a 1 to 5 score. The lowest build ratio (best option) received a score of 5 and the worst a score of 1.

### Feasibility/Constructability: (Maximum Points – 25)

- Estimated Cost (Planning Level Cost Estimate)

Scoring:	5 = zero to \$1.6M
	4 = \$1.6M to \$3.2M
	3 = \$3.2M to \$4.8M
	2 = \$4.8M to \$6.4M
	1 = \$6.4M to \$8.0M
	0 = Greater than \$8.0M

- Community Support

An adapted Community Support Worksheet (developed by the University of Washington) was applied.

UW Worksheet Score Conversion:

Scoring: 5 = 0 - 1
4 = 2 - 3
3 = 4 - 5
2 = 6 - 7
1 = > 7

This was augmented with the study's public input and an assessment of consistency with long range plans.

UW Converted Score (1-5)	Stakeholder comments Score (1-5)	Public comments Score (1-5)	Local gov. Long Range Plan Score (1-5)	Average Community Support Score
4	3	5	3	4

- Mode Integration

University of Washington "Mode Integration Worksheet" (adapted) was applied.

Scoring: 5 = 0 - 1
4 = 2 - 3
3 = 4 - 5
2 = 6 - 7
1 = > 7

Assumption:

1. University of Washington "Mode Integration Worksheet" (Question 4, 5 score for "No" answer is 1 instead of 2)
2. Bicycle carriers on buses north of Chimacum
3. Bicycle loop detector, signal pedestrian phase assumed for signals
4. In general, reduced pedestrian, bike use south of Chimacum
5. No Transit service south of Chimacum

- Historic or Cultural Impacts

Proximity to National Historic Registry Sites:

Scoring:	5 = No historic or cultural impacts
	4 = No known site in the proximity of assumed right of way needed
	3 = Site at distant proximity
	2 = Site within close proximity of assumed right-of-way needed
	1 = Site within assumed right of way needed

Notes:

1. City of Port Townsend and Jefferson County consulted
2. Department of Archeological and Historic Preservation (DAHP) consulted
3. Interview scheduled with the Tribes

**Environmental Impact:** (Maximum Points – 25)

- Wetlands, steep slopes, other

The larger the right-of-way footprint, the more likely there will be significant environmental issues to address.

Wetlands, Slope, and Other:

Scoring:	5 = TDM Tier 1 green alternatives and park and ride lots
	3 = Tier 1 & 2 (channelization, aux. lanes, roundabouts, signal)
	1 = Tier 3 (widening, etc. because of large ROW)

- Vehicle Emission Reduction: Fuel Usage

The gallons of fuel usage at each intersection were divided by the percent volume throughput to create a ratio for ~32 intersection locations within six corridor scenarios. The five build fuel usage to percent volume throughput ratios for a 2-lane facility, and one for a partial 4 lane facility were compared against each other to create a 1 to 5 score. The lowest build ratio (best option) received a score of 5 and the worst a score of 1.

- Residential Impacts (square foot)

Scoring: 5 = 0 to 45,193  
4 = 45,193 to 90,387  
3 = 90,387 to 135,580  
2 = 135,580 to 180,774  
1 = 180,774 to 225,967  
0 = 225,967+

- Business Impacts (acres or square foot)

Scoring: 5 = 0 to 9,376  
4 = 9,376 to 18,752  
3 = 18,752 to 28,127  
2 = 28,127 to 37,503  
1 = 37,503 to 46,879  
0 = 46,879+

- Interpretation of likely Benefit-Cost:

Scoring: 5 = > 1.0  
3 = ~ 1.0  
1 = < 1



\* Tiers 1, 2, and 3 focus on low-cost with high return, moderate to high cost, and highest cost respectively. Potential improvement options include the following:  
 Tier 1: ITS, access management, ramp modifications, turn lanes, and intersection improvements.  
 Tier 2: Parallel corridors (including local roads), adding auxiliary lanes, and direct access ramps.  
 Tier 3: Commuter rail, HOV/HOT lanes, adding general purpose lanes and interchange modifications.

\*\* Transportation Demand Management (TDM). This is an umbrella term for strategies that reduce vehicle trips or shift use of the roadway to off-peak periods.

Priority with all scores	Score based on likely Benefit Cost	Project Number	Project Number for ROW & Cost Estimates	Description of Potential Improvement Option	* Tiered Solution Number	State Route	Corridor Segment	Location and Existing Configuration	Begin Milepost	End Milepost	Project Issues/Problems	Weighting Factors												TOTAL SCORE													
												25				25				25				25				Estimated Cost	Community Support	Mode Integration	Historic or Cultural Impacts	Category Score	Wetlands, steep slopes, other	Fuel Useage	Residential Impacts (acres or square foot)	Business Impacts (acres or square foot)	Category Score
												Safety		Congestion/Mobility		Feasibility/Constructability		Environmental Impact		Safety Reduction (Societal Cost of Collisions)	Safety for Non-Motorized	Safety for ADA and all users	Category Score	Capacity (Maximum Sum of Critical Movements)	Level of Service	Delay Reduction (Vehicle-Hours in HCM - 10 min. max. ave. wait)	Delay Reduction (Vehicle-Hours in SimTraffic)										
18	1	12	14	Intersection Improvements; Channelization on 2-lane facility. Convert 4-way stop to 2-way stop and provide 250-ft EBL, 295-ft EBR, 100-ft WBL, 295-ft WBR, 320-ft SBR, and 100-ft NBL storage.	1	19	2	SR 19 and Chimacum-Center Road (MP 9.09). SR 19 is East-West with 4-way stop, no channelization, no illumination	9.01	9.20	SBL/T on Chimacum will have long queues (LOS F) with option. NBL & NBT/R (LOS F) on Center, but short queues	1	3	3	12	2	4	4	5	4	3	1	17	4	2	2	2	13	3	4	5	1	16	58			
11	1	13	15	Intersection Improvements; Signal and channelization on 2-lane facility. Provide 250-ft EBL, 320-ft EBR, 100-ft WBL, 320-ft WBR, 320-ft SBR, and 100-ft NBL storage. Assumes dedicated right turn lanes include separated non-motorized bike lane.	1	19	2	SR 19 and Chimacum-Center Road (MP 9.09). SR 19 is East-West with 4-way stop, no channelization, no illumination	9.01	9.20	EBL will be LOS E, but average I/S delay is LOS C with option	1	4	4	15	2	4	5	5	4	5	1	19	3	3	4	2	15	3	4	5	1	16	65			
3	1	14	16	Intersection Improvements; 1-lane roundabout on 2-lane facility. Assumes sidewalks for non-motorized pedestrians.	1	19	2	SR 19 and Chimacum-Center Road (MP 9.09). SR 19 is East-West with 4-way stop, no channelization, no illumination	9.09	9.09	Sidra worst movement LOS D in 2031 with option	1	4	4	15	2	4	5	5	5	4	3	20	4	4	4	2	17	3	5	5	5	23	74			
		15	17	Transportation Demand Management (TDM)**; New park and ride lot (20-stalls minimum)	1	19	2	SR 19, MP 9.09 to MP 9.10 near Chimacum-Center Roads.	9.09	9.10	No transit service	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
		16	18	Transportation Demand Management (TDM)**; Shoulder widening (with sidewalks?) for bikes/pedestrians	2	19	2	Chimacum-Center Roads to West Valley Road. Typical 4-ft shoulders	9.09	9.54	Chimacum Creek bridge (019/055) with 3-ft shoulders. Sidewalks are not provided by WSDOT in rural areas.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
15	1	17	19	Intersection Improvements; Channelization on 2-lane facility. Provide 295-ft SBR, 250-ft NBL, and 320-ft EBR&L storage.	1	19	2	SR 19 and West Valley Road, Left (MP 9.54). Existing NBL and 200-ft EBL&R storage with illumination and flashing beacon	9.43	9.61	Long queues for EBL (LOS F) with option. Entrance access for all Chimacum schools (K thru 12)	1	4	3	13	2	1	1	4	3	3	3	12	4	3	3	3	17	3	4	3	5	19	61			
3	1	18	20	Intersection Improvements; Signal and channelization on 2-lane facility. Provide 295-ft SBR, 250-ft NBL, and 320-ft EBR&L storage. Assumes dedicated right turn lanes include separated non-motorized bike lane.	1	19	2	SR 19 and West Valley Road, Left (MP 9.54). Existing NBL and 200-ft EBL&R storage with illumination and flashing beacon	9.43	9.61	EBL will be LOS C, but average I/S delay is LOS A with ICU at C with option	1	4	4	15	2	5	3	3	4	5	5	19	4	4	4	3	18	3	5	4	5	21	74			
		19	21	Transportation Demand Management (TDM)**; Separated non-motorized trail with pedestrian crossings at West Valley and H.J. Carroll Park Roads (at-grade crossings could go further north to Anderson Lake Road with a tunnel proposal near H.J. Carroll)	3	19	2	West Valley to H.J. Carroll Park Road. Existing 8-ft shoulders	9.54	9.87	Existing shoulders meet full design for 2-lane facility. Why a tunnel?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
8	1	20	22	Intersection Improvements; Channelization on 2-lane facility. Public desires 100-ft SBL storage.	1	19	2	SR 19 and H.J. Carroll Park Road, Right (MP 9.87). No channelization, no illumination	9.81	9.95	Existing counts in Jan. 2008 had zero turns into and out of H.J. Carroll Park Road	1	4	3	13	1	5	1	3	4	3	3	14	5	4	3	3	18	3	5	5	5	23	68			
7	5	21	23	Intersection Improvements; Channelization on 2-lane facility. Provide 150-ft NBL, 490-ft SBR, and 560-ft EBR storage.	1	19	2	SR 19 and Anderson Lake Road, Left (MP 10.05). No channelization, no illumination	9.96	10.05	EBL (LOS F) in 2031 with option and one serious injury in 5-year period	5	3	3	18	2	5	1	4	4	3	3	16	4	3	2	3	15	3	4	4	5	20	69			

Table I-1 Continued: Evaluation Scoring Matrix



\* Tiers 1, 2, and 3 focus on low-cost with high return, moderate to high cost, and highest cost respectively. Potential improvement options include the following:  
 Tier 1: ITS, access management, ramp modifications, turn lanes, and intersection improvements.  
 Tier 2: Parallel corridors (including local roads), adding auxiliary lanes, and direct access ramps.  
 Tier 3: Commuter rail, HOV/HOT lanes, adding general purpose lanes and interchange modifications.

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												25				25				25				25				25				TOTAL SCORE		
												Safety				Congestion/Mobility				Feasibility/Constructability				Environmental Impact										
Safety Reduction (Societal Cost of Collisions)	Safety for Non-Motorized	Safety for ADA and all users	Category Score	Capacity (Maximum Sum of Critical Movements)	Level of Service	Delay Reduction (Vehicle-Hours in HCM - 10 min. max. ave. wait)	Delay Reduction (Vehicle-Hours in SimTraffic)	Freight Movement (Truck)	Mobility for Non-Motorized	Mobility Access Balance	Category Score	Estimated Cost	Community Support	Mode Integration	Historic or Cultural Impacts	Category Score	Wetlands, steep slopes, other	Fuel Usage	Residential Impacts (acres or square foot)	Business Impacts (acres or square foot)	Category Score													
14	1	33	35	Intersection Improvements: Signal and Channelization on 2-lane facility. Provide SBR pocket (60-ft storage and 100-ft taper) and 320-ft EBR. Assumes dedicated right turn lanes include separated non-motorized bike lane.	1	19	3	SR 19 and Four Corners Road, Left (MP 11.83 rather than MP 11.89 due to I/S realignment). NBL, EBL, & 100-ft SBR taper with three illuminaires	11.83	11.87	NWL, SBL, & EBL LOS F with average LOS F delay and ICU H in 2031 with option	1	4	4	15	5	1	1	1	2	5	1	11	5	2	3	3	18	3	1	5	5	18	62
18	1	34	36	Intersection Improvements: Channelization on 2-lane facility. Provide 455-ft NBR storage on SR 19.	1	19	3	SR 19 and Prospect Avenue, Right (MP 12.43). Existing SBL and separated WBL & R storage with one illuminaire	12.32	12.43	WBL will be LOS F, WBR LOS E, SBL LOS B with ICU E in 2031 with option	0	3	3	10	4	2	1	3	3	3	2	13	5	3	2	3	17	3	2	5	5	19	58
1	5	35	37	Intersection Improvements: Signal and Channelization on 2-lane facility. Provide 455-ft NBR storage on SR 19. Assumes dedicated right turn lanes include separated non-motorized bike lane.	1	19	3	SR 19 and Prospect Avenue, Right (MP 12.43). Existing SBL and separated WBL & R storage with one illuminaire	12.32	12.43	SBL is LOS F. Average delay is LOS D with ICU E in 2031 with option. Two serious injury collisions in 5-year analysis period.	5	4	4	22	5	3	2	3	3	5	4	18	5	5	3	3	18	3	4	5	5	21	79
21	3	36	38	Widening: Provide auxiliary passing lanes (1500-ft min to 2 miles max)	2	19	3	SR 19 between Prospect Avenue Vicinity and Theater Road	12.66	13.60	May need additional intersection improvements (Airport-Woodland)	1	3	1	8	3	3	3	3	5	3	5	18	2	3	2	3	12	3	3	5	2	16	54
23	1	37	39	Intersection Improvements: Channelization on 2-lane facility. Provide 455-ft NBR storage on SR 19. Also provide 100-ft NBL, SBL, WBL, and EBL storage due to high mainline traffic volumes.	1	19	3	SR 19 and Airport-Woodland Drive Roads, Both sides (MP 12.93 on ROW sheet, but 12.95 in road log). No channelization with one illuminaire	12.82	13.03	Low turning volumes in 2007 are forecast into 2031 with option. If new private or public development (fire station) occurs mitigation will be needed.	1	2	3	10	4	2	1	3	2	3	1	11	4	3	2	3	15	3	1	5	2	14	50
11	1	38	40	Intersection Improvements: Signal and Channelization on 2-lane facility. Provide 455-ft NBR storage on SR 19. Also provide 100-ft NBL, SBL, WBL, and EBL storage due to high mainline traffic volumes. Assumes dedicated right turn lanes include separated non-motorized bike lane.	1	19	3	SR 19 and Airport-Woodland Drive Roads, Both sides (MP 12.93 on ROW sheet, but 12.95 in road log). No channelization with one illuminaire	12.82	13.03	EBL, EBT, WBL, and WBT will be LOS E with option. Average delay is LOS C with ICU E in 2031. Low turning volumes.	1	4	4	15	4	4	2	3	3	5	4	18	4	3	3	3	17	3	2	5	2	15	65
		39	41	Transportation Demand Management (TDM)**: Transit stops at both Theater Roads	1	19	3	SR 19 at MP 13.60 and MP 14.03, Left side. No stops exist.	13.60	14.03	Skewed "Tee" intersections with no illumination. 50 mph zone.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
17	1	40	42	Intersection Improvements: Channelization on 2-lane facility. Provide 100-ft SBL and WBL storage due to high mainline traffic volumes.	1	19	3	SR 19 and Parkridge Drive, Right (MP 13.87). No channelization and no illumination	13.80	13.96	WBL will be LOS F, WBR LOS D, SBL D, and ICU E in 2031 with option	1	2	3	10	4	2	1	3	2	3	2	12	5	3	2	3	17	3	3	5	5	20	59
12	5	41	43	Intersection Improvements: Add SB general purpose lane channelization on 2-lane facility. Provide new 480-ft SBR slip lane to create 2 SBT lanes on SR 20 and provide 960-ft SBT acceleration lane storage on SR 19.	2	19 and 20	4	SR 19 and SR 20, (MP 14.09 and MP 7.79). 4-way existing signal with NBL, EBR, SBL, and SBR with full illumination	13.84 and 7.79	14.09 and 8.02	EBL is LOS F with average delay LOS D and ICU E in 2031 with option	0	3	3	10	4	3	3	3	3	3	4	16	4	4	3	3	17	3	4	5	5	21	64
		42	44	Transportation Demand Management (TDM)**: Separated non-motorized trail through Courtesy Ford north to Glen Cove via Otto Street with a southeast connection to Kala Point via Parkridge Drive.	3	19 and 20	4	SR 20 at MP 7.79 Vicinity is midpoint, Right side. Does not exist.	13.87	8.26	Private property with development by others.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

Table I-1 Continued: Evaluation Scoring Matrix

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												Safety				Congestion/Mobility						Feasibility/Constructability						Environmental Impact						
												Safety Reduction (Societal Cost of Collisions)	Safety for Non-Motorized	Safety for ADA and all users	Category Score	Capacity (Maximum Sum of Critical Movements)	Level of Service	Delay Reduction (Vehicle-Hours in HCM - 10 min. max. ave. wait)	Delay Reduction (Vehicle-Hours in SimTraffic)	Freight Movement (Truck)	Mobility for Non-Motorized	Mobility Access Balance	Category Score	Estimated Cost	Community Support	Mode Integration		Historic or Cultural Impacts	Category Score	Wetlands, steep slopes, other	Fuel Useage	Residential Impacts (acres or square foot)	Business Impacts (acres or square foot)	Category Score
20	3	43	45	Strategic Widening: Widen from 2-lane facility to 4-lane divided rural and urban highway for 2.02 miles (includes applicable intersection improvements)	3	20	4	Segment 4 from SR 19 to Discovery-Mill Roads	7.79	9.81	Large ROW footprint for rural full design. Segment is LOS E and F (before/after Old Fort Townsend Road) in 2031 no build.	4	3	1	13	5	4	5	5	5	3	5	23	0	2	3	3	10	1	5	1	0	9	55
16	1	44	46	Intersection Improvements: Channelization on 2-lane facility. Provide 160-ft NBR pocket (60-ft storage and 100-ft taper) and 100-ft WBL storage.	1	20	4	SR 20 and Old Fort Townsend Road, Right (MP 8.27 ROW or MP 8.26 road log). SBL and center SB accel refuge with 100-ft NBR taper and two illuminaires	8.23	8.27	WBL will be LOS F, WBT/R LOS E, EBLT/R and SBLT LOS A with ICU G in 2031 with option. High mainline volumes.	0	2	3	8	5	2	1	3	2	3	1	12	5	3	2	3	17	3	5	5	5	23	60
		45	47	Transportation Demand Management (TDM)**: Transit stop at Old Fort Townsend Road	1	20	4	SR 20 at MP 8.26.	8.26	8.26	Prefer far side with development by others. Remote crossing (50 mph)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
19	1	46	48	Intersection Improvements: Channelization on 2-lane facility. Provide 160-ft NBR pocket (60-ft storage and 100-ft taper) and 100-ft WBL storage.	1	20	4	SR 20 and Seton Road, Right (MP 8.59 ROW or MP 8.60 road log). SBL and center SB accel refuge with two illuminaires	8.64	8.60	EBLT/R, WBL, and WBT/R will be LOS F. SBL LOS B, and ICU G in 2031 with option. Industrial Park Access.	1	2	3	10	5	1	1	3	2	3	1	11	5	3	2	3	17	3	2	5	5	19	57
14	1	47	49	Intersection Improvements: Channelization on 2-lane facility. Provide 100-ft WBL storage on Fredrick. Public requested 960-ft NB acceleration lane storage (dual transit pullout) on SR 20.	1	20	4	SR 20 and Fredrick Street, Right (MP 8.96 ROW or MP 8.97 road log). SBL & NBL storage with 100-ft SBR and NBR tapers with two illuminaires	8.96	9.21	EBLT/R, WBL, and WBT/R will be LOS F, NBL and SBL LOS C with ICU G in 2031 with option. Other Industrial Park Access.	1	3	3	12	5	1	1	4	2	3	1	12	5	3	3	3	18	3	3	5	5	20	62
5	3	48	50	Intersection Improvements; Signal and Channelization on 2-lane facility. Provide 100-ft WBL storage on Fredricks. Public requested 960-ft NB acceleration lane storage (dual transit pullout) on SR 20. Assumes dedicated right turn lanes include separated non-motorized bike lane.	1	20	4	SR 20 and Fredricks Street, Right (MP 8.96 ROW or MP 8.97 road log). SBL & NBL storage with 100-ft SBR and NBR tapers with two illuminaires	8.96	9.21	EBLT/R and SBT will be LOS F. Average delay LOS F with ICU G in 2031 with option. High mainline volumes and low minor street volumes	1	4	4	15	5	1	1	4	2	5	3	15	5	3	4	3	20	3	4	5	5	21	71
		49	51	Transportation Demand Management (TDM)**: Transit stop at Fredricks Street	1	20	4	SR 20 at MP 8.97	8.97	8.97	Prefer far side with development by others. Remote crossing (50 mph)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
17	1	50	52	Intersection Improvements; Channelization on 2-lane facility. Provide 455-ft SBR on SR 20 and 100-ft EBL storage on Jacob Miller.	1	20	4	SR 20 and Jacob Miller Road, Left (MP 9.58 ROW or 9.57 road log). NBL storage and center NB accel refuge with two illuminaires	9.57	9.68	EBL and NBL LOS F with ICU H in 2031 with option. SB almost has a near-side transit stop (50-ft separation)	0	3	3	10	5	1	1	4	2	3	1	12	5	2	2	3	17	3	3	5	5	20	59
8	1	51	53	Intersection Improvements (and possible segment widening); Port Townsend Entryway Improvements. Combine adjacent intersections in some manner (Two roundabouts, one roundabout, signal modification and channelization, 4-lane widening between, ?, etc). Jefferson County, Port Townsend, and WSDOT to define conceptual option(s).	1, 2, or 3	20	4	SR 20 at MP 9.69 Vicinity. No access currently exists between the two existing intersections (Jacob Miller and Discovery-Mill).	9.57	9.81	Segment LOS F in 2031, Intersection LOS F at Discovery-Mill, ICU H or G likely at Jacob Miller without improvements.	3	3	4	17	5	4	5	3	2	4	5	20	1	5	4	3	13	3	4	3	4	18	68

Table I-1 Continued: Evaluation Scoring Matrix

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												Safety				Congestion/Mobility								Feasibility/Constructability						Environmental Impact				
												Safety Reduction (Societal Cost of Collisions)	Safety for Non-Motorized	Safety for ADA and all users	Category Score	Capacity (Maximum Sum of Critical Movements)	Level of Service	Delay Reduction (Vehicle-Hours in HCM - 10 min. max. ave. wait)	Delay Reduction (Vehicle-Hours in SimTraffic)	Freight Movement (Truck)	Mobility for Non-Motorized	Mobility Access Balance	Category Score	Estimated Cost	Community Support	Mode Integration	Historic or Cultural Impacts	Category Score		Wetlands, steep slopes, other	Fuel Usage	Residential Impacts (acres or square foot)	Business Impacts (acres or square foot)	Category Score
9	1	52	54	Intersection Improvements; 2-lane roundabout on 2-lane facility. Assumes sidewalks for non-motorized pedestrians.	2	20	5	SR 20 and Discovery-Mill Roads. Both (MP 9.82 ROW and 9.81 road log). Signal with SBL & NBL storage and two illuminaires	9.66	9.96	Worst approach is LOS F (aasidra indicates Mill Road) with HCM ICU H in 2031	2	3	4	15	5	2	5	3	2	4	5	19	2	3	3	3	13	3	4	5	4	20	67
13	3	53	55	Intersection Improvements; Signal and Channelization on 2-lane facility. Provide 385-ft SBR (SWR) and 160-ft NBR pocket (60-ft storage and 100-ft taper) on SR 20, 100-ft EBL (SEL) and WBL (NWL) storage on Discovery and Mill Roads. Assumes dedicated right turn lanes include separated non-motorized bike lane.	1	20	5	SR 20 and Discovery-Mill Roads. Both (MP 9.82 ROW and 9.81 road log). Signal with SBL & NBL storage and two illuminaires	9.78	9.92	Seven turning movements will be at LOS F with average delay LOS F and ICU H in 2031 with option.	0	3	4	12	5	1	4	1	1	5	2	14	5	2	4	3	20	3	1	5	5	18	63
13	3	54	56	Intersection Improvements; 1-lane roundabout on 2-lane facility. Assumes sidewalks for non-motorized pedestrians.	1	20	5	SR 20 and Discovery-Mill Roads. Both (MP 9.82 ROW and 9.81 road log). Signal with SBL & NBL storage and two illuminaires	9.81	9.81	Worst approach is LOS F (aasidra)	2	3	4	15	5	1	2	2	1	4	1	12	4	3	4	3	18	3	1	5	5	18	63
16	1	55	57	Strategic Widening (Exceeds LOS D Threshold with Segment LOS F in 2031); Widen from 2-lane facility to 4-lane urban divided and undivided urban highway (includes applicable intersection improvements). Divided portion is from MP 9.81 to MP 11.96.	3	20	5	Segment 5 from Discovery-Mill Roads to Washington Street	9.81	12.07	Segment LOS F with 2-lane, but becomes LOS C or better with 4-lane widening option in 2031.	5	4	1	17	5	4	5	5	5	1	5	21	0	2	3	2	8	1	5	5	0	14	60
15	1	56	58	Intersection Improvements; 2-lane roundabout on 2-lane facility. Assumes sidewalks for non-motorized pedestrians.	2	20	5	SR 20 and Howard Street. Left (MP 10.23). City project to provide a 1-lane roundabout	10.10	10.36	City design year is 2026. Worst approach LOS E (aasidra) for 2-lane RAB in 2031 with HCM ICU F.	0	4	4	13	5	2	3	3	2	4	5	17	3	2	3	2	13	3	3	5	3	18	61
11	1	57	59	Intersection Improvements; 2-lane roundabout on 2-lane facility. Assumes sidewalks for non-motorized pedestrians.	2	20	5	SR 20 and Thomas Street, Right (MP 10.53). City project to provide a 1-lane roundabout	10.40	10.66	City design year is 2026. Worst approach LOS B (aasidra) for 2-lane RAB in 2031 with HCM ICU A.	0	4	4	13	4	5	2	3	3	4	5	19	3	2	3	2	13	3	5	5	3	20	65
9	3	58	61	Intersection Improvements; Signal and Channelization on 2-lane facility. Provide WB climbing lane between Hendricks and Wilson (MP 10.82 to MP 11.07) to provide an outside WBT/R lane through the intersection on 6% grade.	2	20	5	SR 20 and Sheridan Street, Both (MP 10.91 ROW & MP 10.93 road log). WBL, EBL, & SBR channelization with one illuminaire	10.82	11.07	EBL will be LOS D with average delay LOS C and ICU C in 2031. Existing 6% grade WB. Access to hospital via Sheridan.	1	4	4	15	3	4	2	2	2	5	2	15	4	4	4	2	17	3	4	5	5	21	67
		59	62	Transportation Demand Management (TDM)**; Complete discontinuous sidewalks in Port Townsend	2	20	5	SR 20 between Grant Street and Jefferson Street.	10.87	11.91	Funding. Existing shoulder widths vary from 2-ft to 14-ft	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
		60	64	Transportation Demand Management (TDM)**; Provide pedestrian crossing to hospital district (similar to design at Hendricks Street).	1	20	5	SR 20 and Sheridan Street, MP 10.93.	10.93	10.93	One intersection illuminaire exists at Sheridan.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20	3	61	65	Intersection Improvements; Channelization on 2-lane facility. Provide 100-ft WBR pocket (60-ft storage and 100-ft taper) on SR 20.	1	20	5	SR 20 and Sheridan Street, Both (MP 10.91 ROW & MP 10.93 road log). WBL, EBL, & SBR channelization with one illuminaire	10.93	10.97	NBT/R and SBL/T will be LOS F, EBL & WBL LOS B, NBL LOS A with ICU E in 2031.	1	3	3	12	3	1	1	1	1	4	1	9	5	3	2	2	15	3	3	5	5	20	55

Table I-1Continued: Evaluation Scoring Matrix

\* Tiers 1, 2, and 3 focus on low-cost with high return, moderate to high cost, and highest cost respectively. Potential improvement options include the following:  
 Tier 1: ITS, access management, ramp modifications, turn lanes, and intersection improvements.  
 Tier 2: Parallel corridors (including local roads), adding auxiliary lanes, and direct access ramps.  
 Tier 3: Commuter rail, HOV/HOT lanes, adding general purpose lanes and interchange modifications.

\*\* Transportation Demand Management (TDM). This is an umbrella term for strategies that reduce vehicle trips or shift use of the roadway to off-peak periods.

Priority with all scores	Score based on likely Benefit Cost	Project Number	Project Number for ROW & Cost Estimates	Description of Potential Improvement Option	* Tiered Solution Number	State Route	Corridor Segment	Location and Existing Configuration	Begin Milepost	End Milepost	Project Issues/Problems	25 Safety				25 Congestion/Mobility							25 Feasibility/Constructability					25 Environmental Impact				TOTAL SCORE		
												Safety Reduction (Societal Cost of Collisions)	Safety for Non-Motorized	Safety for ADA and all users	Category Score	Capacity (Maximum Sum of Critical Movements)	Level of Service	Delay Reduction (Vehicle-Hours in HCM - 10 min. max. ave. wait)	Delay Reduction (Vehicle-Hours in SimTraffic)	Freight Movement (Truck)	Mobility for Non-Motorized	Mobility Access Balance	Category Score	Estimated Cost	Community Support	Mode Integration	Historic or Cultural Impacts	Category Score	Wetlands, steep slopes, other	Fuel Usage	Residential Impacts (acres or square foot)		Business Impacts (acres or square foot)	Category Score
6	3	62	66	Intersection Improvements; Channelization and signal modification on 2-lane facility. Provide 280-ft WBR and 280-ft EBR storage on SR 20 with 100-ft NBL storage. Assumes dedicated right turn lanes include separated non-motorized bike lane.	1	20	5	SR 20 and Haines PI, Both (MP 11.51 road log, MP 11.53 ROW). EBL, EBR, WBL, & SBL with two illuminaires.	11.44	11.58	EBL, WBT, NBT, and SBL LOS F with average delay LOS E and ICU E in 2031 with option.	1	4	4	15	3	2	3	2	2	5	3	14	5	3	4	3	20	3	4	5	5	21	70
14	3	63	67	Intersection Improvements; Channelization on a 2-lane facility. Provide 250-ft WBR storage or create right-in, right-out access.	1	20	5	SR 20 and 12th Avenue, Left (MP 11.65). No channelization and no illumination.	11.65	11.72	SBL/R will be LOS F, EBL LOS A, and ICU C in 2031 with WBR option. If right-in, right-out future left turns occur via Haines.	1	4	3	13	2	1	1	3	2	3	1	9	5	3	2	3	17	3	5	5	5	23	62
3	1	64	68	Intersection Improvements; 2-lane roundabout on 2-lane facility. Assumes sidewalks for non-motorized pedestrians.	2	20	5	SR 20 and Kearney Streets, Both (MP 12.01). WBL, EBL, & WBR storage with illumination at 5-way signal.	11.88	12.14	Worst approach LOS D (aasidra) and HCM ICU E with option.	4	4	4	20	3	5	3	4	2	4	5	19	3	3	3	3	15	3	5	5	3	20	74
2	5	65	69	Intersection Improvements; Channelization and signal modification on 2-lane facility. Provide 100-ft NBL and SBL storage on Kearney Streets and replace existing span wire system. Assumes dedicated right turn lanes include separated non-motorized bike lane.	1	20	5	SR 20 and Kearney Streets, Both (MP 12.01). WBL, EBL, & WBR storage with illumination at 5-way signal.	12.01	12.01	EBL & SBL LOS F with average delay LOS E and ICU E in 2031 with option. Saltwater corrosion, span wire, one serious injury.	5	4	4	22	3	2	2	3	1	5	3	14	5	3	4	3	20	3	4	5	5	21	76
11	5	66	70	Intersection Improvements; 1-lane roundabout on 2-lane facility. Assumes sidewalks for non-motorized pedestrians.	1	20	5	SR 20 and Kearney Streets, Both (MP 12.01). WBL, EBL, & WBR storage with illumination at 5-way signal.	12.01	12.01	Worst approach LOS F (aasidra) with option.	4	4	4	20	3	2	2	2	1	4	1	11	4	4	3	3	17	3	1	5	5	18	65

Table I-1 Continued: Evaluation Scoring Matrix